53/4

22500039632

96, MOSLEY STREET,
MANCHESTER.

20. W. 07.

S. Honeyman Esq.

Dear Sir.

In reply to your inquiry of the 8th inst. the Pathological Society of Manchester has issued only the one volume of Transactions to which you refer.

Yours faithfully

J. Craven Moore.

BRITISH MEDICAL ASSOCIATION
Library

by the Society

THE TRANSACTIONS

BRITISH MEDICAL Library ASSOCIATION

OF THE

Pathological Society of Manchester

FOR THE SESSION 1891-92.

EDITED BY

T. N. KELYNACK, M.B.

VOLUME THE FIRST.

PRICE TO NON-MEMBERS, FIVE SHILLINGS, NETT.
PRICE TO MEMBERS, TWO SHILLINGS AND SIXPENCE, NETT.

JOHN HEYWOOD,
DEANSGATE AND RIDGEFIELD, MANCHESTER;
2, AMEN CORNER, LONDON, E.C.

NOTICE.

The present volume comprises the Proceedings of the Society during its Session, October 1891, to May 1892.

The Editor thinks it desirable to state that the authors are alone responsible for the descriptions given of the specimens exhibited by them, the only change made in the reports furnished being such verbal alterations as were absolutely necessary.

WELLCOME INSTITUTE LIBRARY
Coll. WelMOmec
Coll. No.

BRITISH MEDICAL
Library
ASSOCIATION

TABLE OF CONTENTS.

VOLUME I.

PAGE

Editor's Notice 2

List of Presidents of the Society 4

List of Officers for Session 1891-92 5

List of Members of the Society 7

Laws and Regulations of the Society 13

Historical Sketch of the Society 19

List of Communications and Specimens 27

List of Illustrations 33

Index 155

Presidents of the Society.

ELECTED	
1885 and 1885-86.....	Henry Ashby, M.D.
1886-87.....	Julius Dreschfeld, M.D.
1887-88.....	Alfred William Stocks, M.R.C.S
1888-89.....	Alfred Harry Young, F.R.C.S.
1889-90.....	John Dixon Mann, M.D.
1890-91.....	George Arthur Wright, F.R.C.S.
1891-92.....	Thomas Carleton Railton, M.D.

PATHOLOGICAL SOCIETY OF MANCHESTER.

OFFICE-BEARERS AND COMMITTEE
for the Session 1891-92.

President:

T. C. RAILTON, M.D.

Vice-Presidents:

H. R. HUTTON, M.B. | F. A. SOUTHAM, M.B.

Hon. Treasurer:

W. THORBURN, B.S.

Hon. Secretary:

THOMAS HARRIS, M.D.

Committee:

J. S. BURY, M.D.	E. ROBERTS.
H. A. G. BROOKE, M.B.	A. ROBINSON, M.D.
W. COATES.	R. B. WILD, M.D.
C. E. RICHMOND.	R. T. WILLIAMSON, M.D.

Auditors:

T. N. KELYNACK, M.B. | J. M. H. MARTIN, M.D.

Publishing Committee.

T. C. RAILTON, M.D. (President.)

THOMAS HARRIS, M.D. (Hon. Secretary).

T. N. KELYNACK, M.B. (Hon. Editor.)

J. S. BURY, M.D.

H. A. G. BROOKE, M.B.

G. A. WRIGHT, M.B.

List of Members of the Society.*

ALBRECHT, J. A. ..... Hope Bank, Kersal.
ALCOCK, R., M.B. ..... Church Lane, Marple.
ANDREWS, A. G. ..... 14, Bradshaw Street, Moss Side, Manchester.
ANNACKER, E., M.D. ..... 292, Oxford Road, C.-on-M., Manchester.
ARMITAGE, H. A., L.D.S. ..... 17, St. Ann's Square, Manchester.
ASHBY, H., M.D. ..... 13, St. John Street, Manchester.
(Pres., 1885, 1885-86; Comm., 1886-7.)
ASHWORTH, PERCY, M.D. ..... 31, Cheetham Hill Road, Manchester.

BAILEY, A. ..... Barton House, Openshaw, near Manchester.
BIERNACKI, J., M.B. ..... St. Anne's Home, Bowdon.
BLORE, I., M.D. ..... 161, Ashton New Road, Beswick.
BOWDEN, E. E. ..... The Infirmary, Warrington.
BOWMAN, R. O., M.B. ..... Ulverston.
BRADLEY, J. ..... 196, Chapel Street, Salford.
BRIERLEY, J. B. ..... Alma House, Old Trafford.
BROADBENT, J. ..... 8, Sunny Bank, Alexandra Road.
(Comm., 1885, 1885-86, 1886-87, 1887-88.)
BROADBENT, G. H. ..... 8, Ardwick Green.
BROOKE, H. A. G., M.B. ..... 28, St. John Street, Manchester.
(Comm., 1885-86, 1891-92.)
BROWN, ALFRED, M.B. ..... Claremont, Higher Broughton.
BROWN, E. VIPONT, M.B. ..... 3, Barlow Terrace, High Street, C.-on-M., Manchester.
BUCKLEY, S., M.D. ..... 32, St. Ann Street.
BURY, J. S., M.D. ..... Eccles Old Road, Pendleton, Manchester.
(Hon. Treas., 1885, 1885-86, 1886-87; Comm., 1887-88, 1891-92.)
BYRNE, E. ..... Wath-upon-Dearne, Rotherham.

* Members are requested to inform the Secretary of any corrections when necessary.

Campbell, C. G. ..... Upper Mill, Saddleworth.
Campion, G. O., L.D.S..... 264, Oxford Road, Manchester.
Chadwick, A., M.D..... Heaton Chapel.
Chorlton, H. D., M.R.C.V.S. Oxford Road, Manchester.
Clegg, Joseph, M.B. ..... Urmston.
Coates, William ..... Ingleside, Whalley Range.
(Comm., 1891-92.)
Collier, J., M.B. ..... 17, St. John Street, Manchester.
(Aud., 1887-88; Comm., 1888-89, 1889-90, 1890-91.)
Collins, F. H., M.D. ..... 75, Withington Road, Whalley Range.
Conway, Basil W. ..... 480, Stockport Road, Manchester.
Cooke, G. H., M.B. ..... Clinical Hospital, Manchester.
Cottam, F. H. W..... County Asylum, Prestwich.
Cox, F. J. W., M.B. ..... 13, St. John Street, Manchester.
Cox, J. J., M.D..... St. Ronan's, Eccles.

Dabbs, C. J. ..... 14, Bradshaw Street, Moss Side, Manchester.
Dacre, Wm., M.R.C.V.S. ..... King Street West, Manchester.
Dearden, V. K. ..... 1, Palatine Road, Withington.
Deakin, J..... 40, King Street, Manchester.
(Editor, 1890-91.)
Delépine, E. Sheridan, M.B. Owens College, Manchester.
Donald, A., M.D..... 17, St. John Street, Manchester.
(Aud., 1887-88; Comm., 1888-89, 1889-90.)
Dreschfeld, J., M.D. ..... 325, Oxford Road, Manchester.
(Vice-Pres., 1885, 1885-86; Pres., 1886-7.)

Edge, A. M., M.D. ..... 252, Oxford Road, Manchester.
Edkins, J. S., M.B. ..... Owens College, Manchester.

Fairclough, J. J. K., M.D. ... Thorncliffe, Old Trafford.
Faulkner, E., M.R.C.V.S. ... 6, Penrhyn Terrace, Stretford Road, Old Trafford.
Ferguson, Jas..... 266, Stockport Road, Manchester.

Glascott, C. E., M.D. ..... 23, St. John Street, Manchester.
Giles, A. E., M.B. ..... 2, Harewood Square, Regent's Park, London, N.W.
Godson, A., M.B. ..... Cheadle, Cheshire.
Goodall, E., M.D. ..... West Riding Asylum, Wakefield.
Goodfellow, T. A., M.D..... Royal Infirmary, Manchester.

GORE, H. B. ..... Altrincham.
GRANGE, J. W., M.B..... Kersal.
GRIFFITH, A. H., M.D. ..... 17, St. John Street, Manchester.
(Comm., 1885, 1885-86.)

HARE, A. W., M.B. ..... 258, Oxford Road, Manchester.
(Comm., 1890-91.)
HARING, NATHAN CHAS., M.B. Rusholme.
HARRIS, THOMAS, M.D..... 98, Mosley Street, Manchester.
(Aud., 1885-86; Comm., 1886-87; Hon. Treas., 1887-88; Hon. Sec. 1888-89, 1889-90, 1890-91, 1891-92.)
HEATH, F. A..... 118, Portland Street, Manchester.
HELME, T. A., M.D. ..... St. Mary's Hospital, Manchester.
HESLOP, W. J. ..... 366, Stretford Road, Manchester.
HEYWOOD, C. C., M.B. ..... Royal Hospital, Salford.
HIGGINS, T. F. ..... 134, Embden Street, Hulme.
HODGKINSON, ALEX., M.B. ... 18, St. John Street, Manchester.
HOOTON, W. A., L.D.S..... 116, Gt. Ducie Street, Strangeways.
HOPKINSON, A., M.B. ..... 59, Wilmslow Road, Withington.
HOWE, J. DUNCAN..... Bank House, Croston, near Preston.
HUSBAND, W. E. ..... 56, Bury New Road, Manchester.
HUTTON, H. R., M.B. ..... 8A, St. John Street, Manchester.
(Comm., 1885, 1885-86, 1886-87, 1887-88; Hon. Treas., 1888-89, 1889-90, 1890-91; Vice-Pres., 1890-91, 1891-92.)

JOHNSON, T. M., M.D. ..... 251, Chapel Street, Salford.
JONES, A. EMRYS, M.D..... 10, St. John Street, Manchester.
JONES, E. E. ..... 820, Ashton Old Road, Openshaw.
JONES, J. HERVEY, M.D. ..... 345, Stretford Road, Manchester.
JONES, J. L. C., M.R.C.V.S.... Knott Mill, Manchester.
JONES, J. W. ..... 129, Chorlton Road, Manchester.
JONES, LESLIE, M.D..... King Street, Manchester.
JONES, THOS., M.B. ..... 89, Mosley Street, Manchester.

KAUFFMANN, O. J., M.D. ..... Queen's Hospital, Birmingham.
KELYNACK, T. N., M.B. ..... 198, Oxford Road, Manchester.
(Auditor, 1891-2; Editor, 1891-2.)
KINGHORN, A. M., M.B. ..... Lime House, Higher Broughton.

LARMUTH, LEOPOLD, M.B..... 96, Mosley Street, Manchester.
LAUDER, W., M.D. ..... 260, Oxford Road, Manchester.
LEA, A. W. W., M.B. ..... Children's Hospital, Pendlebury.

LEDWARD, M. P., M.D..... Ruthven House, Cheetham Hill Road, Manchester.
LEECH, D. J., M.D. ..... 96, Mosley Street, Manchester.
LITTLE, D., M.D. ..... 21, St. John Street, Manchester.
LOCKE, S., M.R.C.V.S. ..... Grosvenor Street, C.-on-M.
LORD, R. E., M.B..... Salford Royal Hospital.
LUCKMAN, E. L..... 63, Oxford Road, Altrincham.
LUND, ED..... 22, St. John Street, Manchester.
LUND, H., M.B..... 22, St. John Street, Manchester.

MACKECHNIE, C. A., M.B..... 355, Blackburn Road, Bolton.
MANN, J. DIXON, M.D..... 16, St. John Street, Manchester.
(Comm., 1885, 1885-86, 1888-89 ; Vice-Pres., 1886-87, 1887-88 ; Pres., 1889-90.)
MARCH, H. C., M.D..... 2, West Street, Rochdale.
MARTIN, J. M. H., M.D. ..... Arnheim, Blackburn.
(Comm., 1890-91 ; Aud., 1891-92.)
MARTIN, W. Y., M.D. ..... The Limes, Walkden, nr. Bolton.
MCNAUGHT, J., M.D. ..... Boothfold, Newchurch, Manchester.
MILLIGAN, W., M.D..... 28, St. John Street, Deansgate.
MILNER, E. T., M.B..... 98, Mosley Street, Manchester.
MORITZ, S., M.D ..... 341, Oxford Road, Manchester.
MORRIS, J. H..... 36, The Crescent, Salford.
MULES, P. H., M.D. ..... Bowdon.
MURRAY, R. A., M.B. ..... 18, Wellington Road South, Stockport.

NALL, S., M.B. ..... Disley, near Stockport.

OLDHAM, H. F., M.D. ..... Carlton Cottage, Morecambe, Lancashire.
OWEN, S. H., M.D. ..... 32, St. Ann Street, Manchester.
(Aud., 1886-87 ; Comm., 1887-88, 1888-89.)

PATRICK, ROBT., M.D. ..... 46, Derby Street, Bolton.
PIKE, PETER, M.R.C.V.S. ..... King Street, Salford.
PLATT, J. E., M.D. ..... Convalescent Hospital, Cheadle, near Manchester.
POMFRET, H. W., M.D..... Hollingworth, Cheshire.
POTTS, W. J..... Manchester Union Hospital, Crumpsall.
PRIESTLEY, J. ..... Fallowfield.
PRITCHARD, W. B..... 270, Oxford Road, Manchester.

RAILTON, T. C., M.D. ..... 340, Oxford Road, Manchester.
(Comm. ; 1885-86, 1886-87 ; Vice-Pres., 1887-88, 1888-89 ;
Edit., 1885-86, 1886-87 ; 1887-88, 1888-89, 1889-90 ; Pres., 1891-92.)

RAMAGE, CHARLES, M.D. ..... Royal Eye Hospital, Oxford Road, C-on-M.
RAW, N., M.D..... The Infirmary, Bolton.
RENSHAW, C. J., M.D..... Beech Hurst, Ashton-on-Mersey.
REYNOLDS, E. S., M.D..... 24, St. John Street, Manchester.
(Comm., 1889-90.)
RHODES, T. W., M.D..... Willow Bank, Baguley Road, Northenden.
(Aud., 1885-86; Comm., 1886-87.)
RICHARDS, A. I. ..... 47, Churnet Street, Rochdale Road, Manchester.
RICHMOND, C. E. ..... 205, High Street, C.-on-M.
(Aud., 1888-89; Vice-Pres., 1889-90, 1890-91; Comm., 1891-92.)
ROBERTS, D. LLOYD, M.D..... 11, St. John Street, Manchester.
ROBERTS, E. ..... 12, St. John Street, Manchester.
(Comm., 1891-92.)
ROBERTSON, G. J., M.B. ..... 61, Queen's Road, Oldham.
ROBINSON, A., M.D. ..... Owens College, Manchester.
(Comm., 1887-88, 1888-89, 1889-90, 1890-91, 1891-92.)
ROSS, J. CARNE, M.D. ..... Withington.

SABERTON, F. W. ..... 13, Brunswick Street, Manchester.
SCOTT, W. E. SAWERS, M.D.... Norton Villa, Fallowfield.
SCOWCROFT, J. E., M.D. ..... Manchester Road, Bolton.
SELLERS, A., M.B..... 103, Cross Lane, Radcliffe.
SIMPSON, H., M.D. ..... 2, St. Peter's Square, Manchester.
SINCLAIR, W. J., M.D. ..... 250, Oxford Road, Manchester.
SKIPP, G.N., L.D.S. ..... 19, St. John Street, Manchester.
SMITH, A. H. ..... 28, Chorlton Road, Manchester.
SMITH, F. MARTIN GODDE..... Burntwood, Barlow Moor Road, Didsbury.
SMITH, J. H., M.B. ..... Manchester Union Hospital, Crumpsall.
SMITH, J. T. ..... 28, Chorlton Road, Manchester.
SMITH, J. W., M.B..... The Royal Infirmary, Manchester.
SMITH, T. STARKEY, M.B..... Lynton House, Warrington.
SOMERS, ED. O'REILLY ..... Pendleton.
SOUTHAM, F. A., M.B. ..... 13, St. John Street, Manchester.
(Comm., 1890-91; Vice-Pres., 1891-92.)
STALLARD, J. PRINCE, M.B. ... 190, Oxford Road, Manchester.
STANFIELD, W., M.D..... Providence House, Lees, Manchester.
STEWART, A., M.D. ..... 27, Eccles Old Road, Manchester.
STOCKS, A. W. ..... 24, The Crescent, Salford.
(Comm., 1885; Vice-Pres., 1885-86, 1886-87; Pres., 1887-88.)
STOCKS, W. P..... 24, The Crescent, Salford.

TATHAM, J. F. W., M.D. ..... Town Hall, Manchester.
TAYLOR, C. B., M.B..... 421, Rochdale Road, Manchester.
TAYLOR, W. A., F.R.C.V.S. ... Brick Street, Turner Street, Manchester.
THOMPSON, J. HILTON, M.D.... Chorley Old Road, Bolton.
THOMSON, GEO., M.D..... 5, Huddersfield Road, Oldham.
THORBURN, W., B.S..... 96, Mosley Street, Manchester.
(Aud., 1886-87; Comm., 1887-88, 1888-89, 1889-90, 1890-91; Hon. Treas., 1891-92.)

VALENTINE, J., M.B..... Salford Dispensary, Pendleton.
VAUGHAN, A. E. ..... Crewe Cottage, Crewe.

WADE, H. ..... Crescent View, Cheadle, Manchester.
WAHLTUCH, A., M.D. ..... Grove House, Moss Lane East, Manchester.
WALTER, W., M.D. ..... 20, St. John Street, Manchester.
WESTMACOTT, F. H. ..... Children's Hospital, Pendlebury.
WHITEHEAD, W. ..... 499, Oxford Road, Manchester.
WHITTAKER, G. O., L.D.S. ... 26, King Street, Manchester.
WILD, R. B., M.D. ..... 207, Lloyd Street, Greenheys.
(Aud., 1888-89; Comm., 1889-90, 1890-91, 1891-92.)
WILKINSON, A. T., M.D. ..... Wilmslow Road, Withington.
WILLIAMSON, W. W..... Lymm, Cheshire.
WILLIAMSON, R. T., M.D..... Royal Infirmary, Manchester.
(Comm., 1891-92.)
WILSON, ALEX. ..... 338, Oxford Road, Manchester.
WILSON, HENRY..... Cheadle, near Manchester.
WOLSTENHOLME, J. B., M.R.C.V.S. } 102, Quay Street, Manchester.
WRIGHT, G. A., M.B..... 8A, St. John Street, Manchester.
(Vice-Pres., 1888-89, 1889-90; Pres., 1890-91.)

YATES, P., M.D..... 102, St. George's Road, Bolton.
(Aud., 1889-90.
YEATS, W., M.D. ..... 266, Oxford Road, Manchester.
YOUNG, A. H., M.B. ..... 14, St. John Street, Manchester.
(Hon. Sec., 1885, 1885-86, 1886-87, 1887-88; Pres., 1888-89.)

Laws and Regulations.

Name and Object of the Society.

I.—This Society shall be called The Pathological Society of Manchester.

II.—The object of the Society shall be the cultivation and promotion of Pathology, by the Reading of Papers, by Discussions, and by the Exhibition of Specimens, Microscopic Preparations, Casts, Models, &c., illustrative of Morbid Conditions.

Constitution of the Society.

III.—The Society shall consist of Ordinary and Honorary Members.

(See Rules IX., X., XI.)

IV.—Ordinary Members shall be legally qualified Practitioners of Medicine, or Licentiates in Dental Surgery, or legally qualified members (by examination) of the Royal Veterinary Colleges, or persons distinguished in other departments of Science connected with Medicine.

V.—The Officers of the Society shall be elected annually, and shall consist of a President, two Vice-Presidents, a Treasurer, and a Secretary, who with eight other Members of the Society shall constitute the Committee of Management.

(See Rules XVIII., XIX., XX., XXI., XXII.)

Election of Ordinary Members.

VI.—Candidates shall be considered eligible for election at any Ordinary Meeting of the Society, if their names, qualifications, and addresses, together with the names of their proposers and seconders, have been notified in the Circular convening that Meeting. The election shall be by ballot, and a majority of two-thirds of the members voting shall be necessary for admission. The election of every new member shall be recorded in the minutes of the meeting at which the election takes place.

(See Rule XLIX.)

VII.—Every person duly elected shall immediately have notice of his election, together with a copy of the Laws of the Society, sent to him by the Secretary.

VIII.—A newly elected Member shall not be entitled to the privileges of Membership until he has signed his compliance with the Laws of the Society, and has paid his Subscription.

Election of Honorary Members.

IX.—The Committee alone shall have the power of recommending persons of distinction in Medicine or the Collateral Sciences as Honorary Members of the Society for the current year.

X.—The election shall be conducted in the same manner as that of Ordinary Members.

XI.—Honorary Members shall not be required to pay any fee. They shall possess all the privileges of an Ordinary Member, except that they shall not have the power to vote.

Withdrawal and Expulsion of Members.

XII.—A Member may withdraw from the Society, provided that his subscription is not in arrear, on signifying his intention in writing to the Secretary.

XIII.—Expulsion of a Member shall take place only at an Ordinary Meeting of the Society. For this purpose at least twelve members must record their votes, and a majority of three-fourths in favour of expulsion shall be essential. The voting shall be by ballot. Of such ballot the Committee must give at least fourteen days' notice to all the Members of the Society.

(See Rules XVII., XLIX.)

XIV.—Resignations and expulsions shall be reported to the Committee at its next Meeting, and recorded on its minutes.

Subscriptions.

XV.—Ordinary Members shall pay an Annual Subscription of Five Shillings. The Annual Subscription shall be payable in advance in October to the Treasurer.

(See Rule XVI.)

XVI.—New Members elected at or after the meeting in April shall not be required to pay the Subscription for the current session.

XVII.—Any Member whose Subscription shall be more than one year in arrear shall be reminded of the same by the Treasurer in writing, and in the event of its not being paid within two months, the Committee shall be empowered to strike his name off the roll of the Society.

Office-bearers and Committee.

XVIII.—The Office-bearers shall consist of a President, two Vice-Presidents, a Treasurer, and a Secretary. The Committee shall consist of the Office-bearers, with eight other Ordinary Members. Past Presidents shall be *ex-officio* Members of the Committee so long as they remain Members of the Society.

(See Rule V.)

XIX.—The Committee, and two Auditors, who shall not be Members of the Committee, shall be elected by ballot at the Annual Meeting of the Society in October.

XX.—After holding office for one year, the President shall not be eligible for re-election to the same office until at least one year has elapsed. A Vice-President may retain his position during two successive years, but shall then be ineligible for re-election until at least one year has elapsed.

(See Rules XXV., XXVI., XXVII., XXVIII., XXIX.)

XXI.—Of the Members of the Committee, exclusive of the Office-bearers, at least three shall be annually replaced by an equal number of Ordinary Members of the Society. The retiring members shall be those who have attended the smallest number of Meetings. In case of equality, the retirement of Members shall be determined by lot.

XXII.—Balloting papers for the election of Office-bearers and Committee, with a list of the present Committee (on which the names of those ineligible for re-election shall be indicated), and a list of Members recommended by the Committee as Office-bearers for the next twelve months, shall be prepared by the Secretary and transmitted to each Member by post, with the notice of the Annual Meeting. On the Balloting Papers spaces shall be left for the substitution by the voter of other names in place of those recommended; but the voting paper when returned to the Secretary must contain not more than the exact number of nominations required.

(See Rule XLIII.)

XXIII.—The Secretary shall receive the Balloting Lists during the first hour of the Annual General Meeting from such Members only as are present at the Meeting, and he shall with two Scrutineers, appointed by the President from the Ordinary Members, make a return of the number of votes for each candidate to the President, who shall then declare the result to the Meeting.

XXIV.—In the event of an equality of votes in an election, the President shall determine by drawing lots.

The President and Vice-Presidents.

XXV.—The President shall occupy his office for one year, and shall not be eligible for re-election during the following year.

(See Rule XX.)

XXVI.—The Vice-Presidents shall not be eligible for more than two years in succession in the same office.

(See Rule XX.)

XXVII.—The President shall preside over all Meetings of the Society and of the Committee. He shall regulate the proceedings and shall see that the laws are observed.

XXVIII.—In the absence of the President, one of the Vice-Presidents, or in their absence any Ordinary Member chosen by the Meeting, shall perform his duties.

XXIX.—The President or his representative shall, in the case of equality of votes, have a second or casting vote.

The Secretary.

XXX.—The Secretary shall have the management of the Correspondence of the Society and of the Committee.

XXXI.—He shall convene all Meetings, and record the minutes of the proceedings, which he shall read at the succeeding Meeting.

XXXII.—He shall notify the Election of Candidates, and shall keep a correct Roll of the Members and Officers of the Society. At the end of each year he shall prepare a Report on the proceedings of the Society.

XXXIII.—He shall receive all Papers and Communications, and shall see that Specimens forwarded to the Society by those who are not Members are exhibited.

The Treasurer.

XXXIV.—The Treasurer shall receive, for the use of the Society, all sums of money due or payable to the Society, and, out of such money, shall pay all sums of money which may be due from or payable by the Society. He shall keep a particular account of all receipts and payments, and shall furnish a statement thereof at each Quarterly Meeting of the Committee.

XXXV.—He shall keep a printed Check Receipt Book for Annual Subscriptions, and shall give notice, according to Law XVII., to Members in arrear.

(See Rule XVII.)

XXXVI.—Two Ordinary Members of the Society, elected at the previous Annual Meeting, shall annually audit the Treasurer's Accounts.

XXXVII.—The Treasurer's accounts, when approved by the Committee and duly audited, shall be presented to the Annual Meeting.

The Committee.

XXXVIII.—The Committee shall have the management of the affairs of the Society.

XXXIX.—They shall meet during the Session of the Society, at least once in every three months, the first meeting being held in October. A Meeting of the Committee shall be held at any time, at the discretion of the President or Secretary, or on a requisition signed by any three Members of the Committee. Notice of the hour of meeting shall be transmitted by the Secretary to each Member. FIVE shall form a quorum.

(See Rule XLI.)

XL.—They shall determine questions by vote, or by ballot if demanded, the President having the casting vote.

XLI.—The Committee at its first meeting shall appoint an Editor, who shall, under the direction of the Committee, report the proceedings of the Society in the Medical Journals.

(See Rule XXXIX.)

XLII.—They shall, from time to time, appoint such Sub-Committees, call such Meetings, make such regulations, and issue such orders as shall appear to them conducive to the good government of the Society and to the proper management of its concerns.

XLIII.—The Committee shall present to each Annual Meeting a Report of the proceedings of the past year, and of the condition, progress, and financial state of the Society, and shall also recommend a list of officers, members of Committee, and two Auditors for the ensuing year.

(See Rules XXII., XLIX.)

Ordinary Meetings.

XLIV.—The Ordinary Meetings of the Society shall be held on the Second Wednesday in each month, from October to May inclusive, at half-past Seven p.m., precisely.

XLV.—Additional Meetings shall be held at such other times as the Committee may determine. Ten members shall form a quorum.

XLVI.—The business of the Ordinary Meetings shall be the Exhibition and Examination of Specimens, Drawings, Casts, Models, and Microscopical Preparations of Morbid Parts, with accompanying Written or Oral Descriptions, and the Discussion of Pathological Subjects. Members having communications to bring before the Society shall give notice to the Secretary some time previous to the Meeting.

XLVII.—In the remarks made in reference to Specimens exhibited, all discussions on abstract points shall be, as far as possible, avoided; and the topics of diagnosis and treatment shall not be introduced farther than is necessary to illustrate the Pathology of the subject.

XLVIII.—At the Ordinary Meetings of the Society nothing relating to its Laws or Management shall be brought forward.

(See Rules L., LI., LII.)

Annual and Special Meetings.

XLIX.—The First Ordinary Meeting of the Society in each Session (held in October) shall be called The Annual Meeting. At this Meeting Officers and other Members of Committee shall be elected.

(See Rules LII., LIV.)

L.—The President and Committee may at any time, on giving a week's notice, convene a General Meeting of the Society for the consideration of any special business. Both at Annual and Special Meetings ten Members shall form a quorum.

LI.—The Secretary shall, on receipt of a written requisition signed by at least 20 members, call a Special Meeting of the Society. A week's notice of such Special Meeting shall be given to all Members of the Society.

LII.—New Laws may be proposed by the Committee at the Annual Meeting, or at a Meeting specially summoned for the purpose, notice of the proposal being sent to the Members with the summons to the Meeting. For the adoption of the Law proposed the votes of two-thirds of the Members present shall be required in its favour.

(See Rule XLIX.)

LIII.—Any Member may make suggestions to the Committee regarding changes in the Laws by letter addressed to the Secretary.

LIV.—At the Annual and Special Meetings of the Society any subject within the scope of the Society may be introduced, due notice of the same having been given on the circular convening such Meeting.

(See Rule XLIX.)

Visitors.

LV.—Members may introduce Visitors to an Ordinary Meeting of the Society, subject to such regulations as may from time to time be made by the Committee.

HISTORICAL SKETCH

OF

THE PATHOLOGICAL SOCIETY OF MANCHESTER.

A DULY constituted Pathological Society existed in Manchester nearly half a century ago. For the particulars concerning the old society I am indebted to the sole surviving member of its original office-bearers, Dr. Frank Renaud, who in a communication to the ordinary meeting of the present Society, on May 8th, 1889, stated: "The initial steps were taken at a private meeting of a few medical officers connected with public institutions in Manchester, held in April, 1846, when it was resolved to found a society for the prosecution of pathological research, meetings of which were to be held once every month, when specimens of morbid anatomy were to be exhibited, their import discussed, and the most noteworthy examples published. This association, at its inauguration, was designated the 'Manchester Pathological Society,' to consist, *inter alia*, of a council of twelve members whose duties were administrative, by whom the minutes of proceedings were kept, and from out of whose number four members were to be annually elected to select, condense, and formulate all cases accounted of sufficient value and interest to be published. All duly qualified medical practitioners in Manchester and surrounding towns were to be eligible for election as members, after being balloted for, and approved by a three-fourths majority. The *London Medical Gazette*, at that time ably edited by Dr. Alfred Swaine Taylor, best remembered now for his standard work on Medical Jurisprudence, was chosen for a publication of the society's proceedings; and having regard to the motto of this periodical, that 'l'auteur tue s'allonger ce que le lecteur tue s'abreger,' the communications were always condensed into the smallest compass that was consistent with lucidity. The first batch appeared on June 4th, 1846, and in the succeeding issue on July 10th of this same year, Dr. Taylor wrote: 'It is with some satisfaction that we find pathological societies are now springing up in many parts of the country. In our last week's number we inserted a report from a society of this kind recently established in Manchester. The report comprised four interesting papers on pathology. We hope to be able to continue

the reports monthly. We have now before us the prospectus of the Pathological Society of London.' These reports from Manchester continued to appear in the *Gazette* from the year 1846 to 1849, and can be read on referring to the yearly index under the heading 'Manchester Pathological Society, Proceedings of.' They were much valued by Dr. Taylor, who wrote that he accounted them among his best contributions. Occasionally they were illustrated with woodcuts paid for out of the Society's funds. A perusal of the printed rules accompanying this short statement of facts, and a reference to the published reports, will form the most fitting apology I can make for obtruding them on attention after so many years of comparative forgetfulness; and if the officials of the present Society will accept a solitary copy of the rules, and preserve it in memory of the past, they will oblige the donor, who has been induced to compile this summary at the instigation of their President."

The following is the list of the original Office-Bearers of the Manchester Pathological Society, and its Rules:—

THE OFFICE-BEARERS OF THE SOCIETY, A.D. 1846.

MEMBERS OF COUNCIL.

Charles W. Bell, M.D.
J. Black, M.D.
Arthur W. Dumville, M.R.C.S.
R. Baron Howard, M.D.
Thomas Radford, M.D.
Henry Reid, M.D.
William James Wilson, F.R.C.S.
John Windsor, F.R.C.S.

CORRESPONDING MEMBERS.

D. J. T. Francis, M.B.
Frank Renaud, M.D.
Thomas H. Watts, M.D.
James Whitehead, F.R.C.S.

TREASURER.

M. A. Eason Wilkinson, M.D.

THE RULES OF THE MANCHESTER PATHOLOGICAL SOCIETY.

Established A.D. 1846.

In the month of April, A.D. 1846, a number of Gentlemen instituted a Society, which they have named "*The Manchester Pathological Society.*"

Objects of the Society.

The objects of the Society are to hold Meetings for the purpose of exhibiting any products of disease, and of making a statement of facts and opinions bearing upon them, and also of forming a Pathological Museum.

Government of the Society.

The entire government of the Society shall be committed to a Council of twelve Members, one-fourth of whom shall retire annually, subject to re-election at the annual meeting.

Of Ordinary Meetings.

An ordinary Meeting of the Society shall be held on the first Thursday of each month, from the hours of 12 a.m. to 1 p.m. The Meeting may be constituted by a quorum of six Members, who shall appoint a Chairman from out of their number.

Conduct of Ordinary Meetings.

The Chairman shall read the minutes of the previous meeting, and he shall be expected to draw up accurate minutes of the proceedings of the meeting at which he presides, to be signed with his name.

After the reading of the minutes, the exhibition of any morbid specimens shall forthwith begin.

Any Member shall have the privilege to ask an appropriate question, through the Chairman, pertinent to the subject, who shall be empowered to decide upon its fitness, and use his discretion as to the nature of the reply:—beyond this, there shall be no discussion.

The Chairman shall also suppress any irrelevancy; and if any personality arise, it shall be the duty of the Chairman to require an apology from the offending Member; should this not be made, the matter shall be forthwith referred to the Council for decision.

Of the Council.

The Council shall meet for the dispatch of business at the close of each ordinary Meeting of the Society, and keep minutes of their proceedings, to be drawn up and signed by the Chairman of their appointment.

These minutes shall be produced at each Annual Meeting of the Society.

The Council shall elect Members, vote supplies of money, direct the formation of the museum, and see that a manuscript catalogue of the articles contained therein, together with a book of detailed descriptions and histories relating to the preparations, be kept by four corresponding Members.

The Council shall take cognizance of all matters of misconduct referred to them from ordinary Meetings of the Society, and their decision shall be final.

They shall interpret all the laws according to their strict letter.

The Council shall appoint from amongst themselves four corresponding members for the ensuing year.

Of the Corresponding Members of Council.

The corresponding Members shall take notes of the scientific transactions of the Society, and duly report them to such Medical Journals as the Council shall select for the publication of the Society's labours.

They shall conduct all the scientific correspondence of the Society.

They shall superintend the preparing of any Drawings, and the Engraving of any Plates illustrative of disease, for the execution of which the Council agree to vote funds.

They shall also superintend the putting up of preparations, and enter fully the respective cases in a book to be provided for that purpose.

The Treasurer.

The Treasurer shall be elected by a majority of votes in Council, and shall continue in office so long as he faithfully performs his duty.

He shall receive all the money of the Society, and disburse none of it without an order in Council; he shall pay no bills which have not been examined and attested by at least two Members of Council, and he shall present to the Society a balance-sheet of the receipts and payments at each annual meeting.

He shall be, *ex-officio, a Member of Council*, with power to vote.

Of Ordinary Members.

The Ordinary Members of the Society shall be unlimited in number.

Any Gentleman wishing to become a Member of the Society must present a written petition to the Council signed by four Members.

A majority of three-fourths of the Council shall be required for the election of a Member, which election shall be determined by Ballot.

Every Member on being elected shall subscribe within one month after his election the following obligation:—

"*By subscribing my name to the laws of the Manchester Pathological Society, I publicly declare that I will obey all its laws, and that I will never consent to any alienation of the monies or property of the Society. And I further promise that I will be careful that any person becoming a Member of the Society shall subscribe this obligation, as I now do in presence of the Council of the Society.*"

Every Member on signing the obligation shall pay to the Chairman of the Council, or to the Treasurer, the sum of Ten Shillings and Sixpence, the amount of his annual subscription.

All subscriptions shall become due at the annual meetings of the Society.

Any Member intending to withdraw from the Society shall signify such intention in writing to a meeting of the Council at least one calendar month before the annual meeting, otherwise he shall be liable to pay his subscription for the ensuing year, whether he shall have attended at the Society or not.

If any Member die or resign, or otherwise cease to be a Member of the Society, his interest (if any) in its property and effects shall cease.

Each Member shall have the privilege of introducing at the ordinary meetings of the Society one visitor, who shall be required to sign the following declaration on his card of admission: *I consider myself bound to observe the laws of the Society.*

Of Change of Rule.

No rule of the Society shall be altered or reversed, nor shall any new rule, or further change of a rule be allowed, except at triennial meetings to commence from the first ordinary meeting of the Society.

Of Annual Meetings.

An annual meeting shall be held on each Anniversary day of the Society, at 12 a.m., when the Treasurer's report shall be heard, and the minutes of the Council for the past year read. The vacancies in the office of Members of Council shall then be filled up in accordance with rule.

Of Triennial Meetings.

A meeting of all the Members shall be held on the Anniversary day of the Society every third year, at 12 a.m., at which, in addition to the business of the annual meetings, such alteration in the laws as may be deemed necessary shall be made.

No motion for the alteration of the laws can be brought before the Triennial meeting of the Society, except notice thereof be signified to a meeting of the Council at least one month previous.

A majority of four-fifths of the Society shall be required for the abrogation or alteration of an old law, or for the adoption of a new law.

At the present day some of the above rules, especially those relating to the conduct of the ordinary meetings, and to the treasurer, will be read with interest.

The proceedings of the old Manchester Pathological Society continued to appear in the *Medical Times and Gazette* up to the year 1849. The exact time when the society ceased to exist, and the reasons of its becoming defunct, cannot be ascertained.

The Manchester Medical Society, which had been founded in the year 1834, devoted a certain amount of attention to pathological work, but it was not until the year 1875 that pathology received a more special recognition by the formation of what was termed the "Microscopical Section of the Medical Society of Manchester."

The following were the rules of that Section, as amended and passed at its annual meeting in January, 1880 :—

Rules Passed at the Annual Meeting of the Microscopical Section of the Medical Society of Manchester, January, 1880.

I.—The Society is to be called the Microscopical Section of the Manchester Medical Society.

II.—The objects of the Section are to hold meetings for the exhibition of morbid and normal specimens to be illustrated by microscopical preparations, and for the reading of papers and the discussion of subjects relating to microscopical science.

III.—The Section shall consist of members of the Manchester Medical Society. Each member of the Section shall contribute five shillings annually to the funds of the Section. The Subscription to be due in January and in advance.

IV.—Every member wishing to join shall give notice of the same to the Secretary, and no one shall be considered a member until his subscription be paid.

V.—The officers shall be elected annually, and shall consist of a president, five members of committee, and secretary, who shall also act as treasurer.

VI.—The meetings shall be held monthly from October to April on the third Tuesday in the month, and at such times as the committee deem desirable.

VII.—The annual meeting shall be held in January to receive the secretary's report, to elect officers for the ensuing year, and to transact any other business that may arise.

VIII.—Members shall have the privilege of borrowing microscopical specimens from the Society's cabinet. The secretary shall have charge of the cabinet, and enter specimens borrowed in a book kept for that purpose. Slides shall not be kept more than one month.

IX.—Any member shall have the privilege of admitting a visitor to the meetings with the consent of the president.

As the regulations precluded any but members of the Medical Society from becoming members of the Microscopical Section, and also limited the preparations exhibited to those illustrated by microscopical specimens, it was found that the field of work was materially curtailed. As the laws of the Medical Society would not allow of the admission into the Section of those who were not members of the Medical Society, the committee of the Medical Society was unable to accede to the requests of the Section to give it a more independent position, and so to afford it greater scope for pathological work.

On March 10th, 1885, a preliminary meeting was held in the Pathological laboratory of the Owens College, Manchester, at which Mr. A. W. Stocks presided, and it was resolved:—

(1) "That a Pathological Society, working in friendly connection, as far as possible, with the Medical Society of Manchester, be formed."

(2) "That the office-bearers of the Microscopical Section of the Manchester Medical Society constitute the officers of the new Societ until a general meeting be held, and that they be requested to formulat laws and arrange the general business and work of the Society, subject to the approval of the general meeting."

The first general meeting of the present Pathological Society was held on Tuesday, March 24th, 1885, in the Anatomical Theatre of the Owens College. Dr. Ashby, the president, was in the chair, and thirty medical men were present. The committee submitted to the meeting their proposals as to the Laws and Regulations of the Pathological

Society. Those were discussed, amended, and then adopted. It was also resolved, "That the office-bearers and committee of the Microscopical Section constitute the office-bearers and committee of the Pathological Society for the rest of the present year, and up to the annual meeting in October." The following is a list of those officers :—

President	Dr. H. Ashby.
Vice-President	Dr. J. Dreschfeld.
Committee	Dr. J. Broadbent.
	Dr. A. H. Griffith.
	Dr. H. R. Hutton.
	Dr. J. Dixon Mann.
	Mr. A. W. Stocks.
	Dr. H. Tomkins.
Honorary Treasurer	Dr. J. S. Bury.
Honorary Secretary	Mr. A. H. Young.

Since March 24th, 1885, meetings of the Society have been held regularly during the months of October, November, December, January, February, March, April, and May.

The meetings of the Society were held in the Pathological Laboratory of the Owens College until January 16th, 1889. Since that date, by the kind permission of the Council of the Owens College and the successive committees of the Manchester Medical Society, they have been held in the Reading Room of the Medical Society.

The laws of the Society were revised and amended, and in their present form adopted at the annual meeting held on October 14th, 1891. At the same meeting it was resolved "That Transactions of the Manchester Pathological Society be published."

THOMAS HARRIS, Honorary Secretary.

List of Communications and Specimens

Brought before the Society during the Session 1891-92, arranged in order of presentation:—

First Meeting, October 14, 1891.

PAGE.

I. A Series of Surgical Pathological Preparations. By G. A. Wright, M.B., F.R.C.S.:—

(1) Stricture of the œsophagus 35
(2) Gangrenous enteritis 36
(3) Sac of a femoral hernia 36
(4) Intestinal perforation 36
(5) Chronic appendicitis with concretion 36
(6) Concretion from vermiform appendix 37
(7) Imperforate rectum 37
(8) Papillomatous adenoma of the rectum..... 37
(9) Aneurism of the axillary artery 37
(10) Pyæmic pericarditis 38
(11) Suppurating hydrocele 38
(12) Abscess of the testicle 38
(13) Leg, the subject of old infantile paralysis ... 38
(14) Hammer toe 39
(15) Loose body from the knee-joint 39
(16) Chronic enlargement of the olecranon bursa 39
(17) Necrosis of humerus after compound fracture 39
(18, 19) Osteomyelitis of the humerus 39
(20) Acute necrosis of the femur 40
(21) Osteomyelitis of the neck of the femur 40
(22, 23) Chronic osteomyelitis of the lower end of the femur with spontaneous fracture 40
(24) Tubercular disease of the upper end of the tibia 41
(25) Tubercular disease of the lower end of the tibia..... 41
(26) Fracture of the tibia and fibula, showing malposition 41
(27, 28) Calcareous degeneration of a lymphatic gland 42

PAGE

(29) Splenic tumour 42
(30) Horny growth of hand 42
(31) Horny growth from interior of sebaceous cyst 43
(32) Cavernous angioma of skin 43
(33) Multiple fibro-adenomata of the breast 43
(34) Fibro-neuroma of cervical nerves..... 43
(35) Enchondromata of the fingers 43
(36) Lymphadenomata 44
(37) Lymphadenoma of the neck 44
(38) Naso-pharyngeal polypus springing from the body of the sphenoid 44
(39) Periosteal sarcoma of the lower end of the humerus 44
(40) Central sarcoma of neck of femur 45
(41) Cystic sarcoma of muscle 45
(42—46) Epithelioma of the tongue..... 45
(47) Epithelioma of the glosso-hepiglottic furrow 46
(48) Epithelioma of the scrotum 46
(49—50) Epithelioma of the penis 46

II. A Case of Double Hydronephrosis. By J. M. H. Martin, M.D..... 47

III. Tubercular Meningitis (Card specimen). By E. Goodall, M.D., M.R.C.P. 48

IV. Pure Cultivations of various Micro-organisms (Card specimens). By E. Goodall, M.D., M.R.C.P. 48

Second Meeting, November 11th, 1891.

V. A Case of Mediastino-Pericarditis in a Child of Two Years. By H. Ashby, M.D., F.R.C.P..... 49

VI. Aortic Aneurism in a Seal. By A. H. Young, M.B., F.R.C.S. 51

VII. A Case of Abdominal (pre-vertebral) Hydatid Cyst. By Julius Dreschfeld, M.D., F.R.C.P..... 51

VIII. Epithelioma Adenoides Cysticum (Hydradenoma). By H. A. G. Brooke, M.B. (with illustrations) 54

IX. Aortic Aneurism. By H. R. Hutton, M.B..... 59

X. A Demonstrating Microscope (Card specimen). By T. C. Railton, M.D., M.R.C.P. 60

PAGE

THIRD MEETING, DECEMBER 9TH, 1891.

XI. Ruptured Cornual Pregnancy. By G. J. ROBERTSON, M.B.; with Pathological Report on the Specimen by T. HARRIS, M.D. (with illustration) 61
XII. Hernial Sac. By H. LUND, M.B., F.R.C.S. 67
XIII. Omental Cyst. By H. LUND, M.B., F.R.C.S. 67
XIV. Acute Purulent Meningitis following Chronic Suppurative Middle Ear Disease. By W. MILLIGAN, M.D., C.M. 67
XV. Optic Tracts in Unilateral Atrophy. By R. T. WILLIAMSON, M.D., M.R.C.P. 70
XVI. Tumour of the Pituitary Body. By W. THORBURN, B.S., F.R.C.S. 70
XVII. Melanotic Alveolar Sarcoma. By W. THORBURN, B.S., F.R.C.S. 71
XVIII. Acute Tuberculosis—Lung and Spleen (Card specimen). By H. R. HUTTON, M.B. 71
XIX. Chronic Hepatic Abscess with Advanced "Amyloid" Kidney (Card specimen). By T. N. KELYNACK, M.B. 72
XX. Arachnoid Cyst (Card specimen). By W. J. POTTS 72
XXI. Broncho-Pneumonia in an Infant (Card specimen). By T. C. RAILTON, M.D., M.R.C.P. 73

FOURTH MEETING, JANUARY 20TH, 1892.

XXII. Löffler's Diphtheria Bacillus. By H. ASHBY, M.D. 73
XXIII. Rupture of the Heart. By J. DIXON MANN, M.D., F.R.C.P. 74
XXIV. Tubercular Tumour of the Choroid (with illustration). By HILL GRIFFITH, M.D., C.M. 75
XXV. A Note on Photo-micrography (with illustration). By T. HARRIS, M.D., M.R.C.P. 76
XXVI. Tubercular Peritonitis and Peri-hepatitis (Card specimen). By T. C. RAILTON, M.D., M.R.C.P. 79
XXVII. Sarcomatous Epulis (Card specimen). By E. ROBERTS and G. N. SKIPP, L.D.S. 79
XXVIII. A Case of Malignant Endocarditis (Card specimen). By F. H. WESTMACOTT. 80
XXIX. Aneurism of the Left Ventricle (Card specimen). By R. T. WILLIAMSON, M.D. 81

PAGE

FIFTH MEETING, FEBRUARY 10TH, 1892.

XXX. A Case of Birth Palsy. By T. C. RAILTON, M.D., M.R.C.P. 81
XXXI. A Series of Large Sections of Whole Organs. By SHERIDAN DELÉPINE, M.B. 87
XXXII. A Case of Acute Necrosis. By P. ASHWORTH, M.D., F.R.C.S. 87
XXXIII. A Case of Fractured Skull in an Infant. By T. N. KELYNACK, M.B. 92
XXXIV. Bi-lateral Cerebral Hæmorrhage. By T. N. KELYNACK, M.B. 94
XXXV. Ileo-umbilical Diverticulum, contained in the Distal End of the Umbilical Cord. By H. ASHBY, M.D., and G. A. WRIGHT, M.B., F.R.C.S. (with illustration.) 94
XXXVI. Localised Subcranial Blood Clot (Card specimen). By T. N. KELYNACK, M.B. 95

SIXTH MEETING, MARCH 9TH, 1892.

XXXVII. Cancer of the Lung. By D. J. LEECH, M.D., F.R.C.P. 96
XXXVIII. Atrophic Hepatic Cirrhosis. By D. J. LEECH, M.D., F.R.C.P. 102
XXXIX. Tubercle of Hernial Sacs. By F. A. SOUTHAM, M.B., F.R.C.S. 104
XL. Tumour of the Bladder. By F. A. SOUTHAM, M.B., F.R.C.S. 107
XLI. A Case of Complete Extirpation of the Larynx by a Suicide. By J. DIXON MANN, M.D., F.R.C.P.; with notes of the case by R. E. LORD, M.D. 108
XLII. Unusual Degeneration in the Spinal Cord. By R. T. WILLIAMSON, M.D., M.R.C.P. 110
XLIII. A Case of Abdominal Aneurism. By PRINCE STALLARD, M.B. 110
XLIV. Intra-capsular Fracture of the Neck of the Femur. By J. PRINCE STALLARD, M.B. 111
XLV. "Large White" Kidney, associated with Atrophic Kidney —Two Cases (Card specimens). By T. N. KELYNACK, M.B. 112

PAGE

XLVI. A Series of Sections of the Cord and Medulla from a Case of Disseminated Sclerosis (Card specimens). By T. N. KELYNACK, M.B. 112

XLVII. A Case of Laceration of Mesentery and Perforation of Small Intestine (Card specimen). By T. N. KELYNACK, M.B. 112

XLVIII. Intra-thoracic Aneurism and Acute Pericarditis (Card specimen). By T. N. KELYNACK, M.B. 113

XLIX. Tubercular Ulceration of Bowel and Caseating Mesenteric Glands (Card specimen). By W. LAUDER, M.D. 113

L. Adherent Pleura, with Secondary Tuberculosis in the New-formed Tissue (Card specimen). By T. C RAILTON, M.D., M.R.C.P. 114

LI. Solitary Kidney (Card specimen). By F. H. WESTMACOTT. 115

LII. Kidney, with Double Pelvis and Ureter (Card specimen). By F. H. WESTMACOTT (with illustration). 115

SEVENTH MEETING, APRIL 13TH, 1892.

LIII. Bi-mucous Fistula. By JULIUS DRESCHFELD, M.D., F.R.C.P. 117

LIV. The Reflexes in Spinal Injuries. By W. THORBURN, B.S., F.R.C.S. 117

LV. Leiomyoma of the Skin. By H. G. BROOKE, M.B. 131

LVI. Cerebellar Tumour. By JUDSON S. BURY, M.D., M.R.C.P. 131

LVII. Angioma of the Ciliary Body. By A. HILL GRIFFITH, M.D. 134

LVIII. A Case of Chronic Localised Choroiditis with Deposit of Bone. By A. HILL GRIFFITH, M.D. 136

LIX. Plexiform Angio-sarcoma of the Cerebellum (Card specimen). By SHERIDAN DELÉPINE, M.B. 137

LX. Heart and Lungs from a Case of Acute Septic Inflammation of Serous Membranes (Card specimen). By H. R. HUTTON, M.B. 138

LXI. Dermoid Ovarian Cyst (Card specimen). By T. N. KELYNACK, M.B. 139

LXII. Hydatid Cysts of the Liver (Card specimens). By T. N. KELYNACK, M.B. 139

PAGE

LXIII. Cases of Meckel's Diverticulum (Card specimens). By T. N. KELYNACK, M.B. 140

LXIV. Pulmonary Tuberculosis with Tubercular Epiphysitis of the Head of the Femur (Card specimen). By A. W. W. LEA, M.B., F.R.C.S. 140

EIGHTH MEETING, MAY 11TH, 1892.

LXV. Acute Necrosis without Suppuration. By NATHAN RAW, M.D., B.S. 141

LXVI. Two Specimens of Aneurism of the Arch of Aorta without well-marked Symptoms during Life. By NATHAN RAW, M.D., B.S. 142

LXVII. Equine Tuberculosis. By J. B. WOLSTENHOLME, M.R.C.V.S., and T. N. KELYNACK, M.B. 143

LXVIII. Bovine Suppurative Pericarditis. By J. B. WOLSTENHOLME, M.R.C.V.S. 146

LXIX. Abnormal Bladder in the Horse. By J. B. WOLSTENHOLME, M.R.C.V.S. 146

LXX. Multiple Tumours of the Brain. By G. H. COOKE, M.B. 146

LXXI. Macroscopic and Microscopic Sections of Eyes prepared by the Celloidin Method. By E. ROBERTS. 149

LXXII. Chronic Round Ulcer of the Duodenum resulting in Pyloric Stenosis (Card specimen). By T. N. KELYNACK, M.B. 152

LXXIII. Tubercular Intestinal Ulceration with Perforation (Card specimen). By T. N. KELYNACK, M.B. 152

LXXIV. Carcinoma of the Ascending Colon (Card specimen). By T. N. KELYNACK, M.B. 153

LXXV. Osteo-Chondroma of Rib (Card specimen). By COLLEY MARCH, M.D. 153

LXXVI. Specimens of Bovine Tuberculosis (Card specimens). By T. B. WOLSTENHOLME, M.R.C.V.S. 154

ILLUSTRATIONS.

PAGE

Epithelioma Adenoides Cysticum (Hydradenoma)—Dr. Brooke's communication 54

Ruptured Cornual Pregnancy—Dr. Robertson's communication 65

Tubercular Tumour of the Choroid—Dr. Hill Griffith's communication 75

Apparatus Used in Photo-micrography—Dr. Harris's communication 76

Ileo-umbilical Diverticulum—Dr. Ashby and Mr. Wright's communication 94

Kidney with Double Pelvis and Ureter—Mr. Westmacot. Card specimen 116

Bladder from Same Case 116

COMMUNICATIONS.

FIRST OR ANNUAL MEETING.

THE First or Annual Meeting for the Session 1891-92 was held at The Owens College, on Wednesday, October 14th, 1891, at 7-30 p.m. Mr. G. A. Wright, F.R.C.S., the retiring President, in the Chair.

After revision of the rules and election of the office bearers for the ensuing Session, the newly appointed President, T. C. Railton, M.D., M.R.C.P., took the Chair, and the work of the Society proceeded in the usual manner.

I.—*A SERIES OF SURGICAL PATHOLOGICAL PREPARATIONS.*

By G. A. Wright, M.B., F.R.C.S.

The specimens of which the following brief accounts are given form part of a museum collection now used for teaching at the Manchester Royal Infirmary, and are selected from the exhibitor's collection. The letters and figures in brackets refer to the museum catalogue.

Specimen 1 (W 75).—*Stricture of the Œsophagus.*—The patient, a child of one year and eight months, swallowed some caustic soda seven weeks before admission to hospital. The stricture was dilated by the passage of bougies, and much improvement followed, for a time. The specimen shows the whole œsophagus inflamed, and marked with superficial and deep ulcers. The stricture extends downwards for two inches, beginning two inches below the epiglottis. Just above the stricture is a deep ulcer, which has perforated the wall of the gullet and allowed food to pass into the right pleura. The right lung was completely collapsed. It is doubtful whether the ulcer was pierced by a bougie, or whether the perforation took place spontaneously; probably the bougie completed, as it might very easily do, the work of the ulcer, and so allowed the escape of the food into the adjacent pleura. The child died about 24

hours after the onset of symptoms indicating perforation. The first sign of trouble appeared shortly after taking food, and three hours after the last passage of a bougie.

Specimen 2 (W 54).—*Gangrenous Enteritis.*—A portion of small intestine showing a patch of gangrene. The specimen was removed from the body of a patient who died shortly after an operation for strangulated hernia. Shreds of lymph on the surface of the bowel show that peritonitis had spread for a considerable distance beyond the gangrenous patch. No actual perforation appears to have taken place.

Specimen 3 (W 42A).—*Sac of a Femoral Hernia.*—The specimen was removed by operation from a woman whose rupture had become strangulated. The sac is laid open, and shows the masses of fat attached to the outer wall of the sac and belonging to the subperitoneal tissue. These firm lobulated masses might easily be mistaken for omentum on an external examination.

Specimen 4 (W 42B).—*Intestinal Perforation.*—A portion of small intestine removed from the same patient as the preceding specimen. The bowel is laid open and a piece of glass rod passed through the perforation, which has occurred, apparently, in the line of constriction. Evidence of general peritonitis is present.

Both the above specimens were taken from a woman of 44, who had a hernia of a year's standing. The symptoms of strangulation had been present for a week before operation. All apparently went on well after the operation for six days, with the exception that the pulse kept high throughout (120). The temperature once reached 100·2°, and never exceeded 100° on any other occasion; there was no pain or sickness; the wound healed by primary union; but on the sixth day she suddenly collapsed, and died in an hour or two.

Specimen 5 (W 60).—*Chronic Appendicitis with Concretion.*—A cæcum and vermiform appendix removed post mortem, and sent by Dr. Greville, of the Isle of Man. The walls of the cæcum are very thick, and appear to have been the seat of one or more attacks of inflammation. The appendix is enlarged to about three times its natural calibre, though at its base this enlargement is less marked, so that it has a somewhat constricted, pedunculated appearance. No perforation is visible, but a window has been cut in the free surface, and a whitish concretion, about $\frac{3}{4}$in. long by $\frac{1}{2}$in. broad, is seen lying in the interior of the appendix in a cavity, the walls of which are shreddy and almost sloughy in appearance. There is no history known of the case.

Specimen 6 (W 110).—*Concretion from Vermiform Appendix.*—Concretion found in the vermiform appendix removed after death from a child of nine years, who died of acute general suppurative peritonitis, which was present at the time of operation, four days after the first symptom of disease. (Sent by Dr. Cox, of Eccles). The concretion is about $\frac{1}{2}$in. long and about $\frac{1}{4}$in. in transverse diameter. It is stained dark brown and is, apparently, made up of concentric layers of some material cemented together by calcareous matter.

Specimen 7 (W 183).—*Imperforate Rectum.*—The specimen shows a portion of bowel, in size and appearance very much that of the small intestine of an adult cat. There is no appearance of any collection of the longitudinal fibres into bands, but the walls of the gut are much thickened. About two inches of this part of the gut remain; tracing it down, it is found to rapidly expand into a large, somewhat globular, cavity, which represents the lower part of the rectum, which must have a diameter of at least six to eight times that of the bowel above. The walls of the dilated part are very muscular, the thick longitudinal bundles of fibres being spread evenly over the whole surface. A blue rod has been passed from the lower end of this dilated rectum, through the perineum, to the surface. The rectum ends abruptly about an inch and a half from the surface. A clear glass rod is passed through the vagina and out through an aperture made in the uterus, and a white rod passes through the urethra into the bladder, which has been laid open.

Specimen 8 (W 56).—*Papillomatous Adenoma of the Rectum.*—The specimen was removed by operation from a woman of about 70. The growth caused intestinal obstruction, almost completely blocking up the rectum. The specimen consists of a cauliflower-like mass of growth, some two and a half inches in each diameter. The surface is somewhat irregular and lobulated. The tumour is suspended by its pedicle, which is well defined, apparently composed of fibrous tissue, and about one-third of an inch in diameter.

Specimen 9 (W 74).—*Aneurism of the Axillary Artery.*—The specimen was removed post-mortem from a man of 49, a joiner. He had syphilis twenty years before the aneurism appeared. The third part of the subclavian artery was tied six months after the aneurism was noticed. The patient recovered and lived for some months afterwards, finally dying of aortic aneurism. The specimen shows the aorta dilated to about twice its natural size in the ascending and transverse parts of the arch. The pulmonary artery is also dilated. A large firm clot occupying nearly half the calibre of the aorta reaches from close above the

valves to the orifice of the left carotid artery. The aneurismal sac measures three inches by one and a half inches, it is filled with clot, firm and laminated at the periphery but somewhat soft and loose in the centre. At the lowest point of the aneurism is, as it were, a small secondary sac, as if another small aneurism is grafted on to the large one. The artery is completely occluded from the origin of the thyroid axis to the aneurism, a distance of about an inch. In the neighbourhood of the ligature, the knot of which remains, is a cavity about the size of a large cob nut, which contains broken down blood. The cords of the brachial plexus are firmly adherent to the sac of the aneurism. (*Vide Annals of Surgery*, November, 1888.)

Specimen 10 (W 48).—*Pyæmic Pericarditis.*—The patient, a child of $5\frac{1}{2}$ years, had stone in the bladder. Part of the stone or stones (it was thought there were two) was removed by lithotrity at two operations. As evidence of bladder irritation continued, median lithotomy was performed after discovery of more calculous matter by sounding. Symptoms of general pyæmia, which began a few days after the first lithotrity, became more marked, and he died on the tenth day after the first operation. Post-mortem: Many pyæmic foci were found; both ureters were dilated, one more than the other. The bladder appeared fairly healthy. The specimen shows the shaggy layer of lymph covering the whole surface of the heart and the intrapericardial part of the great vessels.

Specimen 11 (W 55).—*Suppurating Hydrocele.*—Testis, with suppurating hydrocele, from a man of 34. A swelling had existed for four years, and the presence of a new growth was suspected. The specimen shows the body of the testis healthy but compressed. The tunica vaginalis is greatly thickened, and filled with a network of lymph, which contains pus in its interstices. There is also a superficial abscess cavity. The parts were removed by operation.

Specimen 12 (W 67).—*Abscess of the Testicle.*—This is a rare specimen. The patient, a gentleman of 54, had previously had a stone removed from his kidney. A swelling of the testicle had been noticed for nine months. No cause was known for it. At first it appears there was a hydrocele. The testis was removed by operation. The section through it shows an abscess in the body of the gland, the substance of which is spread out in a thin layer round the abscess cavity. The tunica vaginalis is filled with lymph in its upper part, but obliterated below except at one spot. The patient recovered well.

Specimen 13 (W 65).—*Section of a Leg the Subject of Old Infantile Paralysis.*—The limb was amputated, as it was a useless encumbrance.

The specimen shows great increase in thickness of the subcutaneous fat, a pale and atrophied condition of the muscles, while the bones are small and rarefied, though not so much so as is sometimes the case.

Specimen 14 (W 41).—*Hammer Toe.*—The specimen is dissected to show the effect of the contraction of the lateral ligaments in causing, or at least maintaining the deformity. The skin has been cut away, and a blue glass rod is passed beneath the lateral ligament, which passes across the arc formed by the flexed toe in such position as to prevent extension. The flattened extremity of the toe shows how the end came into contact with the ground, while over the knuckle, between the first and second phalanges, is seen the callosity or corn caused by the boot pressure.

Specimen 15 (W 6).—*Loose Body from the Knee Joint.*—The specimen was taken from a man of 24, in whom symptoms appeared three years before the operation, and were attributed to an injury. One surface of the specimen is purely cartilaginous. The other shows a structure resembling cancellous bone. The case is probably really an instance of loose body from chipping off of a portion of articular surface.

Specimen 16 (W 71).—*Chronic Enlargement of the Olecranon Bursa.* The specimen was removed by operation from a man of 49. The swelling had been noticed for 12 years, but it gave him no trouble unless it was injured until three months before its removal, when it became inflamed and painful. The specimen has been bisected and the halves opened out. The thick fibro-cellular wall of the bursa is well seen, and in the interior is a wrinkled irregular mass of lymph partly filling the cavity. It will be easily imagined how a portion of such lymph might become moulded and rolled about till a "melon seed" body was produced. The walls of this particular bursa are usually ill-defined, but in this case the thickening has formed a well-marked sac.

Specimen 17 (W 107).—*Necrosis of Humerus after Compound Fracture.*—The sequestra consist of the whole thickness of the shaft for about three-quarters of an inch, and of part of the thickness for an inch more. At one end is seen the fractured surface, and about an inch higher up the holes through which wires were passed at the operation shortly after the accident. Though the whole thickness of the shaft necrosed for such a distance good union and a useful limb resulted.

Specimen 18 (W 109B).—*Osteomyelitis of the Humerus, with Necrosis of the Shaft and Part of the Head.*—From a man of 20. The arm was amputated for traumatic gangrene. Osteomyelitis followed. The medulla was scraped out, and much trouble was taken to save the stump, but mischief slowly spread and involved the shoulder joint, so

that amputation at the joint was required ten months after the primary operation. A good recovery followed. The remains of the old shaft are seen lying dead and almost loose in the middle of the specimen, of which a longitudinal section has been made. At the upper part the distinction between new bone (involucrum) and old shaft (sequestrum) is less obvious. The articular surface of the head is seen rough and eroded by extension of disease to the joint, which has been reached by mischief spreading around the bone rather than through the epiphysial junction.

Specimen 19 (W 109A).—A wet preparation of the other half of the same specimen, showing a sequestrum of the articular surface, as well as the features seen in the preceding preparation.

Specimen 20 (W 108).—*"Acute Necrosis" of the Femur.*—The specimen is a longitudinal section through the whole length of the left femur. On the outer surface is seen the ragged remains of the periosteum, with muscle attached to it. The periosteum is thickened, and, except at the upper extremity, quite detached from the bone, which is left bare and smooth, no new bone having had time to form. On the sawn surface of the bone there is little, if any, evidence of inflammation in the medulla, except quite at the lower end, in the immediate neighbourhood of the epiphysial line. Separation of the epiphysis from the diaphysis has occurred, the cartilage of conjunction being, so far as it remains, left attached to the epiphysis. The lower three-fifths of the shaft are thus seen to be entirely separated from any vascular connections. The epiphysis itself and the articular surface appear healthy. The bone has been sawn across a short distance above the middle and wired together. The specimen illustrates well the extent of the mischief and the course of the disease, which in this case may have begun as a primary lesion of the epiphysial line, or, as is more probable, as a subperiosteal abscess.

Specimen 21 (W 17B).—*Osteomyelitis of the Neck of the Femur.*—The patient, a boy of 9, was admitted four days after the onset of the symptoms. The neck of the femur was exposed and gouged. He died of pyæmia on the eighth day of the disease. No cause was known for the attack. The neck of the femur is seen quite bare of periosteum. The trochanteric epiphysis is loosened, and a small sequestrum lies in what appears to be the line of the gouge track. The articular cartilage appears healthy.

Specimen 22 (W 63A).—*Chronic Osteomyelitis of the Lower End of the Femur—Spontaneous Fracture.*—The specimen was removed by

amputation from a man of 45. The disease appears to have been of about 15 years' duration. At that time he broke the right femur and the limb was never well afterwards. It was injured again in 1889, when the knee joint suppurated. The joint was opened in February, 1890, and the limb amputated in March. He made a good recovery. The specimen is a wet preparation of half the bone and shows extensive disease. Almost the whole of the bone is destroyed and replaced by granulation tissue for a space of an inch a short distance above the condyles. At the back of the femur is seen an area of bare dead bone. The articular cartilage of the knee joint is eroded.

Specimen 23 (W 63B).—The other half of the same specimen dried. The extreme degree of rarefaction that has taken place is well seen, the rarefying process having produced division of the bone (spontaneous fracture) almost completely.

Specimen 24 (W 76).—*Tubercular Disease of the Upper End of the Tibia.*—Removed by amputation from a child of six and half years. The disease was of three and half years' duration. Besides the mischief seen in the specimen, there was also disease of the lower end of the femur, and of the knee-joint. Which of the lesions was primary is doubtful; possibly a primary synovitis spread in both directions; possibly there were two primary lesions. A longitudinal section has been made of the tibia, and half an inch below the epiphysial line is seen a sequestrum the size of a hazel nut lying in its cavity. The disease of the articular surface is also visible. A transverse section of the bone was made at the time of operation to see whether excision was practicable, but the extent of disease clearly necessitated amputation.

Specimen 25 (W 59).—*Tubercular Disease of the Lower End of the Tibia.*—The specimen was removed by amputation from a boy of seven years, after failure of treatment by gouging, etc. He had tuberculosis of the lungs and of one thumb. The disease was of two years' standing. The portion of tibia has been bisected longitudinally, and suspended by its lower extremity. Almost the whole of the lower end of the bone has been destroyed, and there is a large cavity lined with caseous material and surrounded by a zone of caseous bone. The mischief has spread through the articular surface, and the whole joint is diseased. The disease has affected both sides of the epiphysial line.

Specimen 26 (W 8).—*Fracture of the Tibia and Fibula, showing Malposition.*—The patient, a man of 37 years, sustained a compound fracture three weeks before admission to hospital. Diffuse suppuration followed, and the limb was amputated. There is considerable overlap-

ping of the fragments, the lower ends of the tibia and fibula lying in front of and external to the upper portion. The fragments are united by a certain amount of ensheathing callus. The ends of the bones are seen to be the seat of rarifying ostitis.

Specimen 27 (W 77).—*Calcareous Degeneration of Lymphatic Gland.* —The specimen shows a mass, consisting apparently of two glands adherent to one another. The mass has been opened, and the halves turned back, showing the soft, broken down, pultaceous interior, which has however in places become calcareous. Sections of some of the main vessels are seen near the middle of the lower mass.

Specimen 28 (W 20).—*Calcareous Degeneration of Lymphatic Glands.* —The glands were removed by operation from a boy of six years. The enlargement was said to have followed an attack of tonsillitis six months only before his admission to hospital. The mass occupied the anterior triangle of the neck. The specimen has been bisected and the two halves turned back, so as to expose the cut surface of both. A number of glands are seen agglutinated together, some of them showing the firm, fleshy appearance of recent disease, others have pale caseous foci in them, which in some are breaking down, while in others again, especially at the lower part, chalky-looking calcareous deposits are visible.

Specimen 29 (W 73).—*Splenic Tumour.*—The specimen was removed by operation from a man of 31. His symptoms appear to have dated from a drinking debauch six years ago, when he vomited a large quantity of blood, and since that time hæmatemesis has occurred at intervals. There was no increase of white corpuscles. The patient died a few hours after the operation from the effects of bleeding from a large vein in the diaphragm. The entire spleen has been bisected longitudinally, and suspended vertically. The external appearance and that of the section present no greater change than that of increased density of structure, so much so that the section might, at first sight, be almost one of the liver. On looking at the posterior aspect two notches are seen; the upper is artificial, a portion having been removed for microscopic examination; the lower is the natural notch. Along the whole line of the hilum are seen groups of very large vessels, on some of which the ligatures still remain. It was, probably, from the upper set of vessels that the fatal hæmorrhage came.

Specimen 30 (W 31).—*Horny Growth of Hand.*—The excrescence had been growing for ten months. The horny fibres are partially separated.

Specimen 31 (W 22).—*Horny Growth from Interior of Sebaceous Cyst.*—The striated horny material is seen springing from the bottom of a depression formed by surrounding folds of skin. The overgrown papillæ are clearly seen.

Specimen 32 (W 1).—*Cavernous Angioma of Skin.*—A section has been made through the specimen, which shows the skin itself and the subcutaneous tissue replaced by a sponge-like framework of fibres, here and there opening out to form lacunar spaces. Much of the meshwork is filled with clot.

Specimen 33 (W 114).—*Multiple Fibro Adenomata of the Breast.*—Five tumours were removed from the left, and two from the right breast of a woman of 28 years. They had been noticed for some four years. They caused no pain. The specimens consist of four masses, of sizes varying from a walnut to a small orange. Their external surface is smooth, and shows a distinct capsule. The surface is marked by bosses, separated by intervening grooves. Two of the growths have been laid open to show the granular gland-like material, divided into lobules by bands of fibrous tissue.

Specimen 34 (W 46).—*Fibro-Neuroma of Cervical Nerves.* — The specimens were removed from the neck of a man of 38. They were attached to branches of the cervical nerves and spread upwards, so that some lay within the spinal canal. They caused great enlargement of the intervertebral foramina, so that they were shelled out of the canal without much difficulty. An account of the case will be found in Thorburn's "Diseases of the Spinal Cord." The specimens consist of two masses of growth which have been laid open and turned back. The outer surface is smooth and covered with a capsule. The inner surface is soft and striated, not unlike a section of healthy testis in appearance, though not so well defined. Portions of nerve trunks are seen to which the growths were attached, and a small piece of red glass has been tied to one of these at the upper part of the specimen. Bundles of fibrous tissue, and probably of nerves, are seen running through the tumours, from which they were quite inseparable.

Specimen 35 (W 50).—*Enchondromata of the Fingers.*—The specimen was taken from a boy of 11 years, both of whose hands as well as the cervical vertebræ were the seat of cartilaginous growths. The finger was removed on account of its size and unwieldiness. A figure of the boy will be found in Ashby and Wright's "Diseases of Children." The finger has been longitudinally bisected and is suspended by its proximal extremity. The epiphysial junctions are well seen. The amputation

was at the metacarpo phalangeal joint. Opposite the first interphalangeal joint on the flexor aspect is seen a white fibro-cartilaginous mass about the size of a filbert. The flexor tendons are spread out over it, and it is firmly attached to both phalanges, so that in this case it is difficult to see whether its point of origin is the surface of the proximal or of the second phalanx. It appears to be rather subperiosteal than central in origin and is not definitely springing from the epiphysial line. The whole finger is much enlarged.

Specimen 36 (W 61).—*Lymphadenomata.*—Four smooth spherical or reniform masses are shown. Two have been laid open. They are encapsuled, and though the sections at first sight appear homogeneous, closer inspection shows a mottled appearance resembling early caseous change in a tubercular gland. The change is not, however, nearly so marked as that seen under such conditions as are shown in Specimen 28 (W 20).

Specimen 37 (W 19).—*Lymphadenoma of Neck.*—From a girl of 13 years. A single large oval mass, closely resembling the last specimen (W 61). It has been laid open, and the capsule and homogeneous fleshy appearance of the section are well seen, though the surface is not so smooth and firm as in the other specimen.

Specimen 38 (W 7).—*Naso-pharyngeal Polypus, springing from the Body of the Sphenoid.*—The tumour, which was of three years' growth, was removed by operation from a lad of 17. The mass blocked up the nares and naso-pharynx, and required division of the soft palate for its removal. A good recovery followed. The specimen, which is about the size and has somewhat the form of an adult thumb, has been suspended by its proximal end and bisected vertically. Its outer surface is in parts smooth, in others striated, and at its lower end somewhat shreddy from superficial ulceration. The cut surface shows a generally striated fibrous appearance, with numerous interspaces, which in parts have enlarged to form smooth-walled cysts. The growth appears to be a fibro-sarcoma, the fibrous elements largely preponderating.

Specimen 39 (W 105)—*Periosteal Sarcoma of Lower End of Humerus.* The specimen was removed by amputation from a boy of 14. The tumour followed an injury $3\frac{1}{2}$ years before; it was attached just above the inner condyle of the humerus. The mass was removed after 18 months' growth, but recurred two months later. Five days before admission an ulcer formed, and some bleeding took place. The specimen consists of the lower end of the humerus with a tumour springing from it. A section has been made of the bone to show the attachment and origin of the

growth. It will be seen that the mass springs from the periosteum covering the internal condyle and the bone above, and the interior of the bone is healthy. The joint is also unimplicated. The growth itself is covered with skin, which shows the scar of the first operation, and also a small orifice through which the sarcoma was beginning to protrude. Beneath the orifice the growth is shreddy and breaking down, elsewhere it is firm and in parts fibrous, in other portions softer and more homogeneous looking.

Specimen 40 (W 45).—*Central Sarcoma of Neck of Femur.*—Taken after death from an adult male who died of sarcoma of the liver. The specimen consists of the upper end of the femur, which has been bisected vertically. The whole of the neck and part of the head, together with the upper part of the shaft and the adjacent cancellous tissue of the great trochanter, are seen to be infiltrated with a soft growth which has replaced the cancellous tissue. The growth has separated the head from the neck, so that a spontaneous fracture has resulted, and the two portions are only held together by the surrounding soft tissues.

Specimen 41 (W 64).—*Cystic Sarcoma of Muscle.*—Removed from a woman's thigh. At the back of the specimen are seen bundles of healthy muscle. In front is seen a section through a fleshy growth which contains numerous cysts laid open by the section. At the upper part of the specimen a warty intracystic growth is seen.

Specimen 42 (W 112).—*Epithelioma of Tongue.*—Removed by operation from a man of 42. The anterior three-fourths of the tongue have been removed. The front half of the specimen shows well-marked leucoplakia, and at them iddle of the left side is a superficial irregular ulcer with hard somewhat raised edges. The papillæ in the neighbourhood of the ulcer are prominent and warty.

Specimen 43 (W 30).—*Epithelioma of Tongue.*—Removed by operation from a man aged 55. No glands were affected. The tongue was irritated by a sharp tooth four months before. The tongue was removed by Whitehead's operation, and a good recovery followed. Almost the whole tongue has been taken away; the anterior half is the seat of an extensive epitheliomatous ulcer with much new growth, forming raised hard edges. The front of the tongue is markedly leucoplakial.

Specimen 44 (W 29).—*Epithelioma of Tongue.*—Removed by Kocher's operation from a man of 40. There was no glandular implication. He recovered well. The whole tongue has been removed. A deep ragged excavation is seen on the left side, at the base of the organ. The ulcer

extends downwards to the floor of the mouth, and upwards to within half an inch of the middle line. In this case destruction of the tissue is more marked than new deposit.

Specimen 45 (W 28).—*Epithelioma of the Tongue.*—Removed by operation (Whitehead's method) from a man of 47. He died of pneumonia three weeks later. The growth was of four months' duration. A very similar specimen to 38. The whole of the front of the tongue is markedly leucoplakial, on the left side is a superficial early epithelio matous ulcer.

Specimen 46 (W 26).—*Epithelioma of the Tongue.*—From a man of 52. There was six months' history. One enlarged gland. A good recovery followed. The whole tongue has been removed. At the anterior half the whole surface of the tongue shows marked leucoplakia. At the middle third of the left side is a large, deeply excavated ulcer, with raised, irregular, everted edges. There is much new material deposited, and it is seen that the anterior part of the ulcer extends from the leucoplakial area.

Specimen 47 (W 27).—*Epithelioma of the Glosso-Epiglottic Furrow.*—Removed by Kocher's operation from a man of 60. He died of pneumonia on the eleventh day. The tumour had been growing for nine months. No glands were involved. The entire tongue with the epiglottis and greater part of the hyoid bone has been removed by the operation. The tongue itself is healthy, but the glosso-epiglottic furrow is the seat of irregular warty looking ulceration, which extends somewhat deeply.

Specimen 48 (W 70).—*Epithelioma of the Scrotum.*—Removed from a chimney sweeper. The growth was noticed seven months before his admission. At the back of the specimen is seen healthy skin, with scattered crisp hairs growing from it. The front is a large ragged fissured ulcer, with raised sinuous edges.

Specimen 49 (W 106).—*Epithelioma of Penis.*—Removed by operation. The anterior half of the penis, which has a long irreducible prepuce. The skin of the posterior part of the specimen is healthy; around the orifice of the prepuce is a broad ring of sharply acuminated papillæ, springing from a thickened base. Some of the papillæ are much more blunted than others. A glass rod has been inserted into the orifice of the prepuce, and another into the urethra at its proximal end. The specimen is suspended horizontally.

Specimen 50 (W 10).—*Epithelioma of Penis.*—Removed from a man, aged 53. It had been noticed for 15 months, and the inguinal glands were affected. There was congenital phimosis. He recovered well.

The anterior half of the penis is shown in the specimen, which is suspended vertically by its proximal extremity. A glass rod is placed in the urethra. Nearly the whole of the elongated prepuce seen in the specimen is thickened, infiltrated, and covered with prominent warty epitheliomatous masses. A typical example of extensive epithelioma in a case of congenital phimosis.

II.—*A CASE OF DOUBLE HYDRONEPHROSIS.*

By J. M. H. Martin, M.D.

The specimen was obtained from a youth of eighteen years, who was admitted to the Blackburn and East Lancashire Infirmary, with the index and middle fingers of the right hand nearly amputated by a cutting machine. Chloroform was administered for the purpose of trimming the stumps, and was apparently taken well in the first stages. Complete narcosis having been produced, the senior house surgeon was just commencing, or had just commenced to remove the hanging tissues when the heart's action and breathing stopped, and in spite of all treatment could not be restored. It was ascertained at the inquest that the boy had suffered from rheumatism and various indefinable symptoms from time to time, and that he frequently did not empty his bladder for hours. Post-mortem : The body was only moderately nourished. There were fully six ounces of blood on the slab which had flowed from the fingers, a very light dressing only having been put on. All the organs and viscera were healthy, with the following exceptions : Extreme fluidity of the blood ; liver enlarged, some old pleuritic adhesions. The pelves of kidneys were dilated, cortices thinned out to one-eighth of an inch at the thickest part. Right kidney before being emptied weighed 38 and the left 36 ounces without the ureters. The ureters were distended, closely resembling the small intestine ; the distension and calibre being uniform throughout down to the bladder where they became suddenly constricted, the ureteral course in the walls of the bladder being only a very narrow channel. Bladder hypertrophied, mucous membrane thickened and corrugated ; ureteral orifice in bladder found with great difficulty, and permitting only the passage of a very fine probe. The fluid in the kidneys, ureters, and bladder was of the same character, light straw-coloured, with a urinous odour, sp. gr. 1010, slightly turbid, and containing albumen. The left ventricle of the heart was hypertrophied, aortic valves being thickened and incompetent; the mitral orifice constricted, and the segments of the valve thickened. All the cavities were quite empty.

There was no impediment to the outflow of urine from the bladder, the urethra being perfectly normal. The preparation is preserved in the Pathological Museum of the Owens College.

III.—*TUBERCULAR MENINGITIS (Card Specimen).*

By E. Goodall, M.D., M.R.C.P.

The sections of cortex cerebri are from a case of tubercular meningitis at the twenty-first day of disease. These had been cut fresh, on the æther-freezing microtome, and stained with anilin blue-black, $\frac{1}{4}\%$ aq. sol. The sections showed a sulcus almost entirely occupied by pia mater, crammed with leucocytes, and on either side of this the cortex cerebri. In the outermost layer of the cortex, and amongst the nerve-cells of the second and third layers, large spider-cells, with numerous and well-marked vascular and other processses, could be seen. These were often in close proximity to the nerve-cells about which their processes lay. The nerve-cells of the layers mentioned, especially the larger pyramidal ones, showed signs of degeneration (granularity, partial division, broken contour, stunted processes), in marked contradistinction to the spider-cells, which were well-stained, plump, and exhibited large nuclei. In addition to these features the specimens showed many clumps of small round cells and extraordinary vascularity. A point upon which emphasis may be laid is the following: The extravasated leucocytes occurred in collections apart from the spider-cells; the former were localised, the latter diffusely distributed. This fact, so far as it goes, is against the theory which maintains the leucocytal origin of the spider-cells seen in inflamed cerebral cortex, and in favour of the belief in their development from pre-existent connective tissue cells. The specimens further illustrated the advantages of the fresh method of preparing brain-sections.

IV.—*PURE CULTIVATIONS OF VARIOUS MICRO-ORGANISMS (Card Specimens).*

By E. Goodall, M.D., M.R.C.P.

A series of tube cultures demonstrating the more important varieties of Bacterial Growths.

SECOND MEETING, NOVEMBER 11TH, 1891.

V.—*A CASE OF MEDIASTINITIS WITH PERICARDITIS.*

By Henry Ashby, M.D., F.R.C.P.

John E., aged two years, was admitted into the Children's Hospital on September 9th, 1891, being sent in by Dr. Robinson of Stalybridge. His mother states "that the first five children are dead, the cause of death in each case being either diarrhœa or bronchitis. No history of syphilis could be obtained; he had severe convulsions when six months old. In May last he had a bad cough and was attended by a doctor. A month later his belly began to swell, and after a while his legs also. He has still a troublesome cough." (Notes by Mr. F. H. Westmacott.)

On admission his face was puffy and swollen, the abdomen was distended with fluid and his legs were dropsical. Temperature 101°, pulse 130, respiration 40. An examination of the chest showed some dulness over the upper lobe of the left side in front, bronchial breathing being heard and fine bubbling râles; there was evident consolidation of the right base behind. No "pulsus paradoxus."

The cardiac apex beat was in the third space inside the left nipple line, the cardiac sounds were normal; there was no marked increase in the area of cardiac dulness. The abdomen was greatly distended with fluid, there was dulness in both flanks and also in the epigastrium; fluctuation was readily obtained. The spleen and liver were not felt. At this time the diagnosis was uncertain; syphilitic cirrhosis of the liver was thought of, as also mediastino-pericarditis; it was clear there was a sub-acute broncho-pneumonia present. No urine was obtained.

September 10th.—Temperature has varied from 99—103°. Crepitation heard in both lungs. Child evidently weaker, otherwise the same.

September 14th.—Child evidently worse. The abdomen was now relaxed so that the edge of the liver could be plainly felt; it was evidently much enlarged, both right and left lobes, the latter reaching as low as the umbilicus; a nodule about the size of a marble was plainly felt on the upper surface of the left lobe. Child died September 16th. The temperature was 105·6° before death.

Post-Mortem.—Lungs not adherent in the anterior mediastinum or elsewhere. The right lobe was solid with pneumonia, the left upper lobe was also pneumonic, but in a later stage than the right, as caseation was taking place in scattered points. No tubercle was present in the lungs. The pericardium was adherent to the sternum and chest wall,

having to be separated by force; posteriorly it was adherent to a mass of glands and other structures in the middle mediastinum; below it was strongly adherent to the diaphragm. The pericardium was much thickened and firmly adherent to the heart, but could be separated in front. The heart was firmly gripped everywhere by the adherent pericardium. It was somewhat small; the valves were normal. The mediastinal glands were enlarged and caseous, one of them being an inch and a half in length; several had softened, and contained putty-like material. The structures in the mediastinum, trachea, bronchi, glands, aorta, vena cava, œsophagus, etc., were bound together by thick adhesions, and were more or less compressed. The liver was adherent to the diaphragm, and there was recent miliary tubercle on the surface. There was no physical obstruction to prevent the blood of the inferior vena cava entering the chest. The liver was much enlarged, being distended with blood; there were several nodules on the surface near the edge, due to a slight condition of cirrhosis. The substance of the liver was spongy, and did not cut like a cirrhotic liver. A microscopical examination of the liver showed the usual appearances found in advanced cases of nutmeg livers, but the amount of fibrous tissue present was certainly excessive. In the centre of the lobules the capillaries were much dilated and distended with blood-corpuscles, the liver cells between the capillaries being compressed or actually destroyed; in the external or portal zone the liver cells were loaded with fat cells, both small and large. The walls of the hepatic veins were thickened, there being an excess of muscular fibre. There was a considerable excess of fibrous tissue accompanying the portal vessels; in some places this was very marked. The large increase in size of the liver was, no doubt, due to the excessive quantity of blood which it contained; the hepatic veins, intra-lobular vein, and capillaries being over-distended with blood. The sections showed miliary tubercles on the surface, and a few minute tubercles present in the liver itself, in the neighbourhood of the portal vessels. In this case it seems likely that the bronchial glands became caseous after an attack of bronchitis or catarrh, that an inflammatory process followed in the connective tissue of the mediastinum, which involved the pericardium; adhesions forming, which bound the adjacent structures together, hampering the action of the heart, and compressing the large veins as they entered the chest. The hepatic system was the first to feel the effects of this, and, as a result, there was a chronic stasis of blood in the liver, and, finally, an excessive formation of fibrous tissue.

VI.—*AORTIC ANEURISM IN A SEAL.*

By A. H. Young, M.B., F.R.C.S.

The preparation shown is that of an aneurism of the first part of the arch of the aorta in a seal. The aneurism, which was fusiform in character, was partially filled with a large firm white clot, which, however, was not stratified. The coats of the aorta showed no other naked eye changes. The specimen is preserved in the Pathological Museum of the Owens College.

VII.—*ON A CASE OF ABDOMINAL (PRE-VERTEBRAL) HYDATID CYST.*

By J. Dreschfeld, M.D., F.R.C.P.

Ann W., aged 55, single, was admitted into the Infirmary on July 6th, 1891, complaining of great weakness and pain in her left shoulder. The history showed that she had rheumatic fever when she was 16 years old, and had often suffered from rheumatic pains since then. She had also suffered from a cough for many years, which became worse in the winter and was much less troublesome during the summer months. Her occupation was that of a factory operative, and she had followed her work without much interruption till October, 1890, when she found herself getting weaker and was unable to work regularly. During the winter of 1890 she suffered much from cough and rheumatic pains, and had several slight attacks of hæmoptysis. Nine weeks before admission she had to give up her work altogether owing to the increasing weakness and a pain which was situated in the right side of the abdomen. Six months before admission she had noticed a swelling in the right side of the abdomen; it had given rise to no pain, had not increased in size, and did not cause her much inconvenience.

The patient on admission was found to be of a sallow complexion and very emaciated, the temperature was sub-normal and the pulse 80 per minute, very weak and thread-like.

The thorax was narrow, the clavicular regions depressed and expanded little on expiration; the percussion note over both apices was somewhat high pitched; auscultation showed weak vesicular breathing, especially over the apices and slightly over both bases. The apex beat was not visible, and on the application of the hand only a very slight impulse was felt to the right of the nipple line close to the fifth rib; the heart-sounds were very weak. The abdomen showed some bulging over the

right half, and on palpation a hard and firm tumour, oval in outline, could be made out. The lower convex border of the tumour reached, almost as low as Poupart's ligament, the inner convex border ascended to the right of the middle line and was lost just below the line of ribs on the right side, the outer convex border could be traced up just below the line of ribs and extended almost to a line drawn vertically from the crest of the right ilium. The surface of the tumour was quite smooth and uniform. Palpation over the tumour gave a dull note. The upper portion of the tumour was separated by a clear tympanitic note from the liver. The tumour was not painful on palpation. Liver and spleen were found normal on percussion. The urine, of low sp. gr., contained no sugar and no albumen. The patient suffered from complete anæmia, and the bowels were constipated.

The outline of the tumour and its uniform smooth surface made it probable that it was cystic in nature, and an exploratory puncture was made. The needle passed through a hard, dense wall, and a small quantity of thick yellowish fluid was withdrawn, alkaline in reaction, which on microscopic examination showed a large quantity of irregular hyaline masses, not altered by the addition of either acids or alkalies and stained light yellow by iodine, and masses of cholesterine crystals.

The tumour was evidently cystic in its nature and did not appear to be connected with any of the abdominal viscera. The diagnosis rested between a dermoid and a hydatid cyst. The examination of the small quantity of thick fluid withdrawn did not clear up the diagnosis, as cholesterine crystals are found in both kinds of cysts, and no other elements, such as hairs, pus cells, or hooklets were found.

The patient's condition did not materially alter during the few days she stayed in the hospital. On July 13th she got up to go to the closet and fell down dead. The post-mortem examination was made by Dr. Kelynack on July 14th. It showed pleuritic adhesions over both lungs and healed phthisis in both apices. The pericardium was firmly adherent over the right ventricle; the heart weighed twelve ounces, and was not dilated; the cavities were empty except the right auricle, which contained a few clots; the valves were healthy; the aorta was slightly atheromatous; the coronary arteries not narrowed. The myocardium was healthy, except that at the apex of the left ventricle the muscular substance was completely absent and the myocardium was replaced there by fibrous tissue and thickened endocardium containing calcareous plates.

On opening the abdomen a large tumour presented itself in the right side of the abdomen of the size of a child's head, immediately below the

right lobe of the liver, but separate from it. The tumour was covered by omentum; the transverse colon was pushed down and crossed below the tumour; on the anterior surface of the tumour lay the right kidney, which was pushed forwards, downwards, and inwards; the renal vessels and the ureters were fixed to the tumour wall; the ureters were not obstructed and the renal vessels appeared normal; the duodenum was found to the left of the tumour, and the head of the pancreas was pushed forward but was not connected with the tumour. The tumour was easily separated from the surrounding parts till the vertebral column was reached, to which it appeared attached by a short, stout, cartilaginous pedicle. It apparently did not arise from the vertebral column, and no erosion of bone was found.

The abdominal and pelvic organs showed nothing abnormal beyond a deep depression over the posterior part of the right lobe of the liver and flattening of the posterior surface of the right kidney due to the pressure from the tumour.

The tumour was globular in outline; it had thick walls which were partly fibrous and of cartilaginous hardness, and in parts calcareous. The inner wall was irregular, showing calcareous plates, and no lining membrane could be made out. The contents consisted in great part of a semi-solid mass, not unlike in appearance to thin fæces of light clayey colour. The lower portion of the cyst contained a softer mass, yellowish brown in colour, with small particles like sand. Microscopic examination of the contents showed again nothing but hyaline masses and cholesterine crystals, but no hooklets. Microscopic examination of the cyst wall showed it to consist of a series of hyaline concentric lamellæ.

The microscopic examination of the cyst wall thus distinctly proves that the cyst was a hydatid cyst, the contents of which had undergone changes such as are not uncommonly found in the hydatid cysts of the liver. As to the locality from which the cyst originated it is clear that it formed behind the peritoneum and pushed the peritoneum and the adjacent viscera (pancreas, kidney, and transverse colon) out of their place; though closely attached to the vertebræ it did not spring from these bones. Cysts situated in this locality are of extreme rarity.

The cyst must have existed for a long time. It probably had nothing whatever to do with the death of the patient, which was from syncope, due to the condition of the left ventricle.

The specimen is preserved in the Pathological Museum of the Owens College.

VIII.—*EPITHELIOMA ADENOIDES CYSTICUM (HYDRADENOMA).*

By H. G. Brooke, M.B.

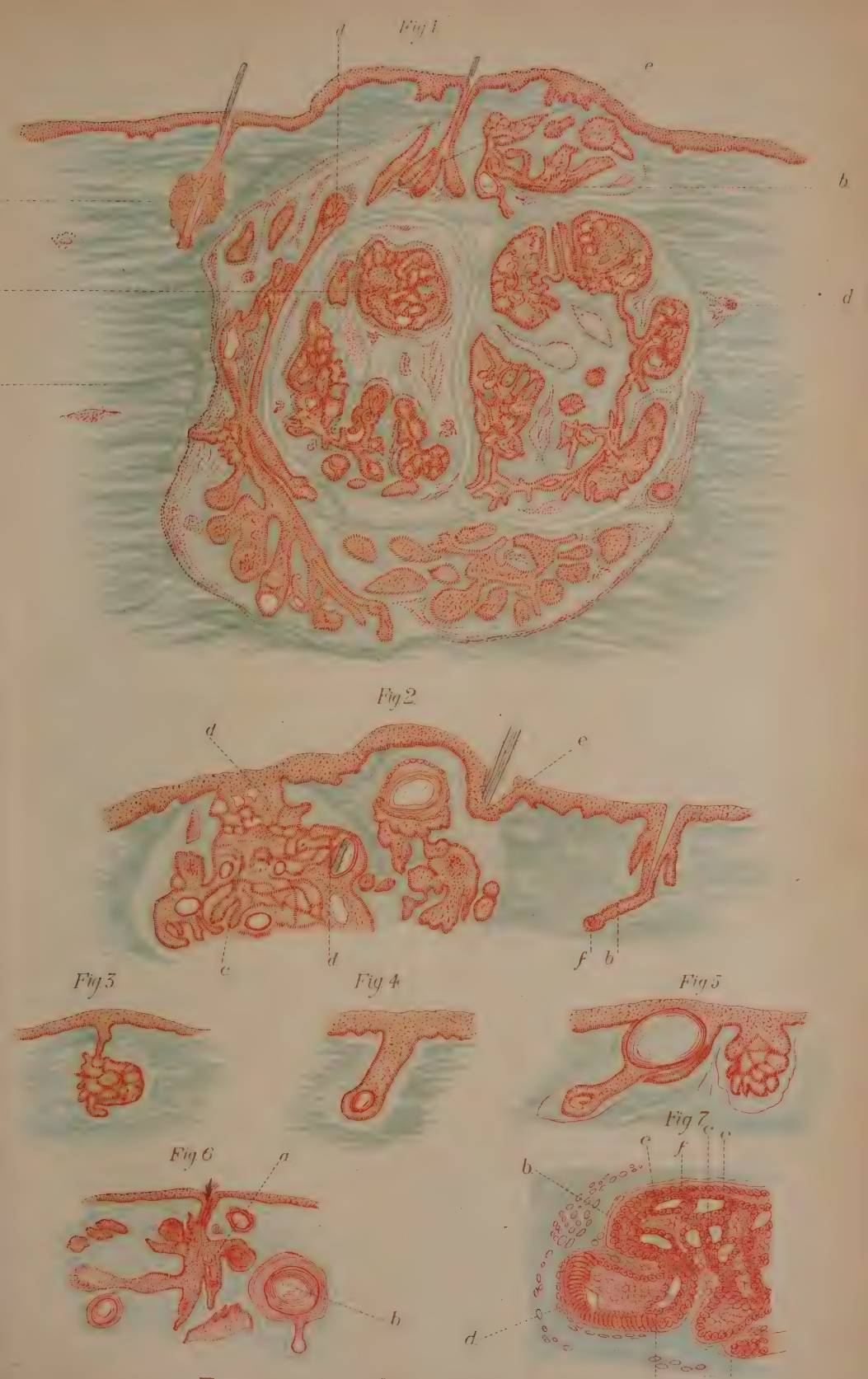
This affection was first described by Darier (*Annales de Dermatologie et Syphilis*, 1886), under the name of *Hydradenoma*. Since then it has been noticed and studied by several observers, and designated by various titles, which have been intended to convey an idea of its peculiar structure and source of origin. Very slight cases are probably not unfrequently overlooked, and some of the even more pronounced of the reported cases seem to have been discovered accidentally during the examination of other diseases, for the actual symptoms to which it gives rise are usually very trifling, and more often none whatever exist. But a case in which the lesions occur in numbers on the face, and have been allowed to develop for some years, presents so great a disfigurement as to compel the attention of even an indifferent patient. In other parts of the body, and in the earlier stages of growth, this resemblance does not obtain The growths are found in the shape of small tumours, varying in size from the head of a pin to the half of a small pea. They are at first of the colour of the surrounding skin, or slightly darker ("dark little dots"), but as they grow, some become slightly translucent, with occasionally a faint bluish or yellowish tinge, and nearly all contain one or more minute white milium-like bodies, which are plainly visible to even a casual inspection.

Their sites of predilection are the spaces between the eyebrows, the roots of the nose, the nostrils and neighbouring area of the cheeks, the upper lip, and to a less extent the chin. In these situations they tend in time to become thickly grouped, and form flat irregular lumpy masses. They also occur frequently in the middle third of the back, between the shoulders. Later on they are found scattered as solitary papules about the rest of the face, in the front portion of the scalp, freely on the tragus, and round the junction of the ear with the head.

This is the distribution which I have found in the four cases which I have observed, and it tallies in the main with the positions in which it has been recorded as occurring by others. The growths may, however, be limited practically to the trunk. Thus, in the first recorded case by Darier and Jacquet,* they were found almost exclusively on that part of the body and neck which would be covered by "the front valve of a

* Darier and Jacquet. "Hydradénomes Eruptifs."—*Annales de Derm. et Syph.*, 1887.

BROOKE. EPITHELIOMA ADENOIDES CYSTICUM.



EPITHELIOMA ADENOIDES CYSTICUM

B del

Guardian Litho Manchester

cuirass," and on the inner surfaces of the upper limbs. Török* mentions only the front fold of the axilla and front of the chest. In Perry's case† the distribution on the face and scalp resembled that noticed in my patients, but differed in its exclusive limitation to those regions. Quinquaud‡ found a few lesions in his case on the frontal region, on the level of the temples, and about the inner corners of the eyes, but all the rest were situated on the trunk, inner side of the thighs, and even on the penis; in this instance again the maximum development was on the upper part of the chest and the front of the neck. Philippson,§ too, found them chiefly on the chest, between the mamillæ and the clavicle, below the mamillæ, on the anterior and upper part of the arm, and above the clavicle; but he also found them above the bridge of the nose and over the eyebrows.

The possible area in which they may occur is, therefore, very extensive. I think that I have seen them also on the legs, but the diagnosis of any but pronounced lesions is unreliable unless supported by microscopical examination.

The development is slow. All the cases seem to have begun in childhood or youth, and very gradually to have increased in number and size. Their growth may, however, take on a sudden acceleration even after they have existed for many years, and apparently without any exciting cause. In no case which has yet been recorded has there been any attempt at spontaneous evolution; on the contrary, the tumours increase in size and area until the affected skin looks at the first glance as if covered with dense masses of smooth warts, or, to make the simile more exact, with a thick crop of molluscum contagiosum nodules, to which these lesions present a distinct superficial resemblance.

On examining sections hardened with absolute alcohol, or with weak chromic and acetic acid solutions and then spirit, and stained either with hæmatoxylin or with safranin-indulin, the nodules are found to consist of a mass of adenomatous-looking epithelial new growth lying in the corium. In the midst of this growth lie cysts filled with amorphous matter, or with concentric shales of epidermis, which constitute the white nodules which are seen in the clinical examination.

---

* Török. "Cyringo-cystadenom."—*Monatshefte f. praktische Dermatologie*, Band VIII., 3.

† Perry. "Adenoma of the Sweat Ducts."—*International Atlas of Rare Skin Diseases*, IX.

‡ Quinquaud. "Cellulome epithé éruptif."—*Congrès international de Derm. et Syph.*, 1889. *Comptes Rendus.*

§ Philippson. "Relations of Colloid Milium and Hydradenoma."—*Brit. Journ. of Dermatology*, Feb., 1891.

The nature and origin of this new growth has been the subject of much discussion and of no little diversity of opinion. The curved finger-like processes and prolongations of which it is made up, seem, on a cursory examination, to be of the nature of tubes, and suggest their derivation from the sweat glands. Perry does not hesitate to call them sweat glands, "on the under surface of the corium and in the subcutaneous adipose tissue there was to be noticed an enormous increase in the size and complexity of the sweat gland coils." Darier, who holds the same view of their origin, confesses that he can nowhere find an actual canal. He speaks of the epithelial tracts as tubes (*boyaux*), but says that the lumen is only apparent and not real, the illusion being produced by the section of cells which have become colloid and translucent. Török refers to the tracts as "canals" or "tubes," but does not mention finding any lumen in the smaller ones, and states definitely that he was unable to find any in those of larger size. Quinquaud and Jacquet deny that any connection between the growths and the sweat ducts has been demonstrated, and do not regard the tracts as tubes. Philippson says that although they are of about the same breadth as a sweat duct, they are not possessed of a lumen, nor of an external limiting membrane.

The specimens which I examined were taken from two cases, and they correspond in the main very accurately to the descriptions of these writers. The structure at once conveys the impression of an epithelioma. As seen in specimens stained with safranin and indulin, the red stained epithelial growth stands out boldly on the blue ground. It is seen to consist of a mass of more or less contorted epithelial tracts, some of which are finger-like, others swollen so as to assume the shape of a sausage or of a pear, with all the various circular and elliptiform figures which cross sections of such forms in various directions would give rise to. The newest proliferations are almost invariably in the form of fingers. These frequently anastomose to make complicated agglomerations, or spread out so as to form on section the "stag's horn growths" of which Darier speaks. The outer row of cells stain more darkly than those inside, and are arranged in what is generally a very distinct palisade form. In the finer tracts the bases of these cells almost meet in the middle, but leave a slight interspace, which conveys the impression for a moment that it is a lumen; but there is no lining membrane present as in the sweat duct, and a closer examination almost always shows the presence of some lightly coloured epithelial cells lying in this seemingly free space, and at right angles to the palisade cells.

I have seen many instances of an apparently free lumen, but all, after running a short distance, emerged into the central epithelial cells. It looked distinctly as if an abortive attempt had been made to make a canal, but there is never any real approach to the clean pipe-like appearance of a normal sweat duct. Some of these abortive canals were found in the midst of the sausage-shaped tracts. In no case have I succeeded in clearly tracing a normal sweat duct into a new growth, but have found one occasionally pushed aside to make room for the increasing epithelial masses, and have noticed, as have the other writers, both normal ducts and coils in close proximity. In several important respects my examinations have differed from those previously recorded, for I have found the duct of a sweat gland in vertical section very much swollen by increase of cells between the outer and inner layer, and have seen the lumen of otherwise seemingly normal glomeruli dilating as if to form a cavity. Again I have seen in several quite different sections an epithelial peg, in which I could find no trace of lumen passing downwards, branch out freely into a convoluted mass of new growth, or into a simple sausage-like epithelial mass which contained typical cysts. The greater part of the growths, however, show no such connection, and appear to be perfectly free from the epidermic stratum. The connective tissue is normal, except in the neighbourhood of the older growths, where it shows some signs of proliferation and is of looser texture. Not unfrequently it follows the outline of the new growth, and often forms a sort of covering almost of the nature of an adventitia. In places there is a distinct limiting membrane round the outgrowths. This is denied by several investigators, and it is certainly not always present, but in places it is unmistakeable.

The cysts are apparently a secondary development, for I have examined nodules of good size, which both macroscopically and microscopically were apparently free from any sign of cyst formation. They are, however, usually present in abundance, and in many sections constitute, owing to their size and number, the most striking feature in the picture. They originate in the epithelial tracts by the enlargement and alteration of one or more of the central cells, round which their neighbours circle. As the number of altered cells increases the cyst grows larger, and the peripheral cells are flattened so as to constitute a cyst wall. In all cases the original alteration seems to be of the nature of a colloid degeneration, but the latter development of the surrounding cells varies. Either they die gradually whilst retaining their shape, and the cyst thus becomes filled with concentric layers of flattened epithelium round the degenerate focus, or the new cells at the periphery rapidly

undergo colloid degeneration, filling up the whole of the cyst interior with translucent clods, the swollen remnants of the cells in which the nuclei are no longer capable of being stained. The shapes of the cyst sections differ, the majority are circular, but all correspond to the various transverse sections of spherical or more or less ovoid bodies. They are found in all parts of the growth, and when large may press on the epidermic stratum sufficiently to stretch it to a comparatively thin layer; they have, as yet, never been found in direct continuity with the epidermis but always separated from it by a layer of connective tissue. It is evident that these cysts are examples of true milium, *i.e.*, cysts containing cornified epithelium, and have no relationship to the cysts containing fat, cholesterine, and loose epithelial cells, to which that name is sometimes applied, but which are really more allied to dermoid cysts (so-called "sebaceous cysts").

I hope to take another opportunity of refuting Philippson's view that these cysts, of which the interior has become colloid, are identical with Wagner's colloid milium, in which the surrounding tissue is the seat of a striking colloid degeneration.

The discussion as to pathological nature of the growth has turned mainly on its identity or non-identity with the sudoriparous glands.

Darier is of opinion that his case was an adenoma of the ducts of previously perfect sweat-glands.

Török holds equally to the view of the sudoriparous origin of the growth, but considers that the tracts and cysts of which it is composed are due to the abnormal evolution of embryonic buds which were destined for the formation of sweat-glands, the finger-like tracts representing the as yet imperforate predecessors of the tubules, and the cysts an ill-developed lumen. Hence his name, *Syringo-cystadenoma.*

I agree with Török that Darier's description of the connection which he observed between the new growths and the normal sweat-tubes is not convincing, and that it is exceedingly unlikely that a healthy coil and duct should suddenly in its upper portion develop a growth such as that with which we have here to deal. Arguments or suppositions deduced from the mere resemblance of certain of the prolongations to sweat-ducts are of little value in forming a decision, nor, indeed, are the traces of proliferation which he found at the mouth of one duct, since such outgrowths are found from epithelial structures in various affections.

Quinquaud and Jacquet deny altogether the sudoriparous origin, and the latter suggests that the tumours originate at the expense of erratic para-epithelial débris, emanating at the embryonic period from the

deeper surface of the ectoderm, or from its granular buds. Quinquaud proposes the name of *eruptive cystic epithelial celluloma*, and Jacquet that of *benign cystic epithelioma of the skin.*

Philippson, in his endeavour to identify this with other affections which undergo a colloid degeneration, calls it *benign epithelioma with colloid degeneration.* Inasmuch, however, as the colloid degeneration is not always present, and when present, is of a secondary nature, this title would seem to lay too great a stress on one feature which, though important, is not absolutely essential. The more important point to accentuate is the embryonic and congenital nature of the growth, in which all observers subsequent to Darier are agreed.

I lean to the embryonic nature of these tumours not only on account of the blind attempts at gland formation which they appear to present, an exaggeration of the earliest gland growths of the fœtus, but also on account of the fact that they may be hereditary.* Török's supposition that they originate from embryonic sudoriparous buds is probably true but is incomplete, for my sections show typical prolongations containing colloid cysts which are directly continuous with epithelial interpapillary pegs, and others which arise from the sides of hair sacs. The growths may evidently originate from the epithelial layer generally, and are not necessarily confined to any one form of gland buds, a point which Quinquaud wishes to emphasise by using the term "eruptive celluloma." The growth is, however, obviously epithelial, and I have therefore preferred to preserve the designation "epithelioma." It is impossible at once to distinguish this from the ordinary epithelioma and suggest all its characteristic features by any but a very cumbrous name, and I have therefore selected two of the most striking—its adenoid appearance and the formation of cysts—as means for its identification. The term *epithelioma adenoides cysticum* will thus suffice to distinguish this affection, without danger of confusion, and may be taken to connote its benign nature and its embryonic origin. It has the advantage of not being new, but simply a combination from the names suggested by previous writers.

IX.—*AORTIC ANEURISM.*

By H. R. Hutton, M.B.

Dr. Moritz, on behalf of Dr. Hutton, related the history and showed the preparation of this case of thoracic aneurism rupturing into the œsophagus.

* Since the date of the meeting at which this communication was made, I have met with a mother and two daughters who have all developed these tumours during childhood.

Robert D., aged 43. First seen at the Throat Hospital in March, 1891. Two years ago the patient had been knocked down by an engine; otherwise previous history good. No evidence of syphilis. Nineteen weeks prior to coming under observation he became hoarse, and has been getting worse ever since, but experiences no pain.

On examination, no abnormal dulness was detected over any part of the thorax, but as there was some emphysema the area of the heart could not be determined satisfactorily. The pupils were equal, and so was the pulse of each side. The left vocal cord was fixed, and there was slight swelling of the right arytenoid. The left arytenoid was greatly swollen and red. The case was shown at the Manchester Medical Society. He improved considerably until July, when he began to suffer pain referred to the right side of sternum. Early in August he had pain and difficulty in swallowing, unaccompanied by any increase in the hoarseness and loss of voice. Even at this time the physical signs of aneurism were entirely negative. A few days later, while attending in the out-patient room, he suddenly fainted. While lying on the floor some blood ran from his mouth, and it was obvious that the aneurism had given way. Life was prolonged for about three hours after the rupture of the sac.

A post-mortem examination showed that the aneurism (one of moderate size) had pressed upon the œsophagus, and caused ulceration and adhesions between the aorta and œsophagus. The stomach was full of blood, but no blood had found its way into the cavity of the chest. The increase in the area occupied by the heart and great vessels was concealed by emphysema of the lung margins. The communication between the aorta and the œsophagus was small, and it appeared probable that the emptying of the aorta had been a slow process, thus accounting for the long time that the patient lived after the rupture occurred.

X.—*A DEMONSTRATING MICROSCOPE (Card Specimen).*

By T. C. Railton, M.D., M.R.C.P.

The microscope shown was so constructed that the object could be easily illuminated by holding the instrument telescope fashion towards a gas light at any distance, and was thus capable of being passed from hand to hand for the purpose of demonstration. It was not suitable for high powers.

THIRD MEETING, DECEMBER 9TH, 1891.

XI.—*RUPTURED CORNUAL PREGNANCY, INTRA-PERITONEAL HÆMORRHAGE, PARTIAL HYSTERECTOMY. RECOVERY.**

By G. J. Robertson, M.B.,

With Pathological Report by T. Harris, M.D.

The special interest of the following case lies in the difficulty of determining the nature of the pregnancy. The parts removed were shown by me to the members of the North of England Obstetrical and Gynæcological Society, and two views were expressed—the first, that the pregnancy is tubo-uterine or interstitial (Class III. of Prof. Tait's table, *vide* his "Lectures on Ectopic Gestation"); the second that it is tubal, impregnation having taken place in the Fallopian tube close to the body of the uterus. The specimen was recently submitted by Dr. Harris to the Manchester Pathological Society, when a third view was propounded, namely, that the pregnancy is in one of the horns of a uterus bicornis. For the appended report I am indebted to Dr. Harris, who, for reasons given, regards the pregnancy as cornual. Whatever its nature, it is very rare, and is probably the first that has been saved by operation. If it be a ruptured cornual pregnancy, it is worthy of note that though identical in symptoms and clinical course with an interstitial pregnancy, and demanding similar treatment, it cannot logically be included within Prof. Tait's classification of ectopic gestations, being neither extra-uterine nor ectopic.

Sarah B., aged 31, charwoman, the mother of two children aged 11 and 6, is a strong well-developed woman with a record of excellent health and freedom from menstrual troubles. She "missed" about the middle of August, 1890, and after a time, from her symptoms, had no doubt that she was pregnant. At the end of nine weeks she had a sudden attack of flooding, attended with bearing-down pains, and thought she was going to abort. The hæmorrhage continued to be somewhat profuse for ten days. In the discharge she observed "skins," but is not aware of having passed any solid mass. At this time, October 27th, she was seen by Dr. Hodgson, who found that the uterus was enlarged and the os slightly patulous. Ergot was prescribed, and the patient ordered to rest. She took the medicine but went to work. The discharge ceased, or nearly so, after the doctor's visit.

* In the absence of Dr. Robertson, the communication was read by the Secretary, Dr. Harris.

During the night of October 29th she awoke with severe pain in the lower abdomen, and soon after felt sick and vomited. This attack, from which she soon recovered, she subsequently described as quite similar in character but less intense than that which came on at 7 p.m. on November 4th.

On the latter occasion the pain was agonising and was followed by vomiting. Dr. Hodgson was summoned immediately, and found her blanched and collapsed. Two hours later I saw the patient with him. She had rallied from the state of collapse, the pulse was fairly strong, and the blanching was moderate. The lower abdomen was slightly distended. On examining per vaginam, the os uteri was found to be somewhat open; the cervix was not markedly soft; on the left of the uterus there was undoubted resistance, but no distinct tumour could be detected, nor could I make out the fundus by bimanual examination; the right side of the uterus was free, and there was no bulging felt in Douglas' pouch. As the conditions were unfavourable for home treatment, we suggested her immediate removal to the Oldham Infirmary, where she was placed under strict supervision, preparation being meanwhile made for operative interference without delay, should the need arise.

November 5th.—During the night the temperature was subnormal, falling at 6 a.m. to 96° F. No sudden change had occurred, but this morning the patient was distinctly more pallid than on admission. The abdomen was more distended, and there was visible bulging above the brim of the pelvis. Everywhere in front of the abdomen the percussion note was tympanitic, while in both loins it was dull. In the course of the day the temperature rose to 100°. I consulted with my colleagues, who agreed with the opinion entertained by Dr. Hodgson and myself, that the case was one of intra-peritoneal bleeding, probably arising from ruptured tubal pregnancy. At 4 p.m., 21 hours after the seizure, the patient was anæsthetised. A small median incision was made above the pubes. On exposing the peritoneum, it bulged into the wound and presented a dark appearance. A small puncture was made, from which blood exuded, proving that the colour was due to hæmorrhage underneath. The incision was extended so as to admit the hand; no vessel required pressure forceps. On dividing the peritoneum, liquid and coagulated blood escaped freely. I at once passed my hand into the pelvis in search of the fundus uteri. Not finding it in the normal situation, I explored towards the left, and came upon a round tumour, the size of a small orange, on the upper part of which I could feel a rent

with tissue protruding from it. In drawing the tumour towards the abdominal wound, a fœtus escaped from the rent into my hand. As by touch I could make out the limit of the fœtal cyst, and that it had a large fleshy attachment, I determined not to leave hold of it until I had cut off its blood supply. This was done by transfixing the base about half an inch from the margin of the cyst with a needle armed with strong silk, and tying the mass in two portions. The tube and ovary were included in the ligature. I then, by scissors, divided the attachment or pedicle, the tissue of which had all the appearance of being uterine. A vessel from the centre of the stump was seen to be spurting feebly; this was tied with catgut, and, as additional security, a second silk ligature was applied. The parts removed, though situated on the left, seemed to belong to the right side, but owing to the presence of blood, it was impossible to observe the connection of the fœtal cyst, and the investigation of this point was deferred until irrigation was finished. The cavity of the abdomen was thoroughly washed out with boiled water at a temperature of about 100° F., supplied from a syphon syringe. Blood was present everywhere, partly liquid and partly coagulated, the largest collections being found in the lumbar regions and in the pelvis. In the last situation it was firmly coagulated, and required to be scooped out with the hand. Irrigation was continued in all parts until the water returned quite clear. In the region of the right kidney there was evidence of fresh bleeding, which prolonged irrigation with hot water failed to arrest. In the belief that it might be due to the accidental tearing of the omentum by the nozzle of the syringe, careful inspection was made without effect. Considerable time was spent in applying sponge pressure, with the result that the hæmorrhage was greatly lessened, though not quite stopped. Receiving a hint that the patient showed signs of exhaustion, I judged it best to lose no time in finishing the operation. In my haste I cut short the ligature of the pedicle, quite forgetting to examine its relation to the uterus. Having placed a glass tube in Douglas' pouch, I sutured the wound and applied absorbent dressing as well as a large compress over the right lumbar region, which were kept in position by a tightly applied abdominal bandage.

The patient rallied well. During the first week she steadily improved, the temperature remaining about the normal. On the eighth day the sutures were removed and the glass tube replaced by two pieces of rubber tube. From this time the patient gained in flesh and strength, and would have been considered convalescent but for the continuance of fever.

This persisted till the beginning of December, gradually becoming less with lapse of time. The temperature was never high—it ranged from 99° to 101°. In consequence of this febrile condition, the cause of which was not evident, I was led to retain a small tube in the wound until the thirty-second day—much longer than was indicated by the amount of discharge.

I examined the patient "per vaginam" before leaving the hospital, and have since examined her several times. With the exception of the gradual disappearance of thickening in Douglas' pouch there is little difference between her condition then and now (Dec., 1891). The right angle of the uterus is more rounded than is normal. In other respects the fundus is normal in size, shape, and position. The sound passes easily two-and-a-half inches. The right fornix is free; in the left there is some thickening and ovarian tenderness on pressure. The patient makes no complaint of any kind and is in excellent health.

Remarks.—The fœtal cyst, though belonging, as I believe, to the right side, was found on the left of the median line and above the brim of the pelvis, the displacement having been probably caused by blood coagula. Though the treatment by removal of the tubes, ovary and portion of the uterus was successful, it is, I think, open to question whether it was necessary to make even this sacrifice—whether, in fact, the cyst might not have been emptied of its contents and the rent closed by inverting the ragged edges and suturing serosa to serosa.

Report on Dr. Robertson's Case of Ectopic Gestation (With Illustration).

BY THOMAS HARRIS, M.D.

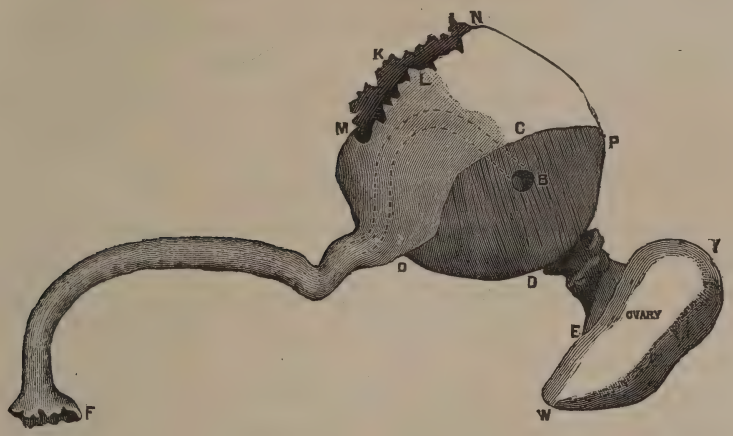
The specimen submitted to me for examination and report consists of a portion of a uterus with an attached Fallopian tube and an ovary. Separate from the above specimen was a fœtus, which measured 2¼in. from the crown of the head to the lower part of the gluteal folds.

The accompanying *diagrammatic* representation has been made to facilitate the description of the parts.

The portion of the *uterus* presents at one pole a cut surface D O C P, which measures 2·4 cm. × 3·5 cm. In this cut surface, at a distance of 9 mm. from the anterior surface of the peritoneal aspect of the uterus, and 1·5 cm. from the posterior aspect of the organ, is the opening B of a small channel admitting of a large-sized probe, and passing in the direction indicated by the dotted lines towards the opposite pole of the portion of the uterus where it opens into a cavity containing blood-clot.

This cavity presents a rupture on the peritoneal aspect of the uterus, the margins M L N K of which opening are irregular, and the rupture measures 2·5 cm. × 1·5 cm. This cavity is evidently the position where gestation has taken place, and from which the fœtus has been extruded.

Passing off from the ruptured cavity is the Fallopian tube, along which a probe can be passed from the interior of the cavity. The length of the Fallopian tube (F O) is 7·5 cm. At its junction with the ruptured cavity it gradually widens out, and becomes continuous with the ruptured cavity, and with the portion of the uterus.



F O = 7·5 centimetres.
C D = 2·4 ,,
C B = 9 millimetres.
B D = 1·5 centimetres.
O P = 3·5 ,,
M N = 2.5 ,,
L K = 1·5 ,,
L C = 2 ,,
W Y = 3·5 ,,
D O C P = Cut surface 2·4 c.m. × 3·5 c.m.
B = { Orifice (? uterine) leading to cavity of ruptured sac.
M L N K = Margin of ruptured sac 2·5 c.m. × 1·5 c.m.
From B to the opening of the channel into the ruptured sac. } = 1·5 centimetre.

Note.—All the above measurements were taken after the specimen had been in spirit for some weeks, and was consequently somewhat diminished in size.

Attached to the posterior margin of the cut surface (D O C P) by a small band (D E) of tissue is an ovary, which appears perfectly healthy, measures 3·5 cm. in length, and contains a corpus luteum. It appears as though the specimen represented the right Fallopian tube with a

portion of the right half of the fundus of the uterus, and attached to it on its posterior aspect the right ovary. It is impossible to speak positively as to the exact position in which gestation commenced, and the development of the sac, which subsequently ruptured, took place.

Three possibilities present themselves :—

(1) That the gestation took place in the Fallopian tube quite close up to the uterus, but still in that tube outside the uterine wall.

(2) That the gestation took place in the channel intervening between the uterine cavity and the Fallopian tube, and was a case of interstitial gestation or tubo-uterine pregnancy.

(3) That the pregnancy took place in the imperfectly-developed right horn of a bicornual uterus.

We have no portion of the round ligament present in the specimen which might have assisted us in determining between a tubal and a cornual pregnancy.

The Fallopian tube in the specimen is short. It measures only 7·5 cm., so that it has probably been considerably encroached upon by the development and expansion of the gestation cavity. Such an encroachment and reduction in length of the Fallopian tube might take place, however, if the development commenced at any one of the three parts above-mentioned.

If the preparation is one of tubal gestation the development of the sac must have commenced close up to the uterus. It is, however, extremely difficult to conceive how such a sac could have been produced from a development commencing in the Fallopian tube, because, as microscopical examination shows, the greater part of the specimen is composed of muscular tissue, and the cut surface D O C P is composed of uterine tissue. If, therefore, the sac is tubal in origin, the wall of the uterus must have been expanded by the growth of the cyst towards the uterus. The resistance, however, in this direction would be very much greater than towards the fimbriated extremity of the tube, hence it is improbable that the direction towards the uterus would be taken by the developing gestation sac. The possibility of the case having been one of pregnancy in the rudimentary right horn of a bicornual uterus is suggested from the appearance presented by the cut surface D O C P and the position of the ovary. In the cut surface D O C P we have the opening of a small channel B, which is surrounded by firm uterine muscular tissue. The position of the ovary, also, is peculiar. It is attached to the posterior aspect of a portion of the uterus, and appears to have an unusual relation to the Fallopian tube and to the

uterus, if the uterus and its appendages had originally their natural conformation and position. It is, however, from an examination of the specimen, impossible to exclude the possibility of the case having been one of interstitial or tubo-uterine gestation.

XII.—*HERNIAL SAC.*

By H. Lund, M.B., F.R.C.S.

The specimen is that of a sac from a case of hernia. The neck of the sac is extremely cartilaginous, and shows well the seat of constriction of omentum. The preparation is preserved in the Pathological Museum of the Owens College.

XIII.—*OMENTAL CYST.*

By H. Lund, M.B., F.R.C.S.

The cyst was removed from the abdomen, and was apparently of omental origin. The specimen is preserved in the Pathological Museum of the Owens College.

XIV.—*ACUTE PURULENT MENINGITIS FOLLOWING CHRONIC SUPPURATIVE MIDDLE EAR DISEASE.*

By William Milligan, M.D., C.M.

The intracranial complications following purulent inflammation of the middle ear may be classified as follows:—(1) Meningitis: Simple, purulent. (2) Subdural abscess. (3) Intracranial abscess: Cerebral and cerebellar; localised; diffuse. (4) Phlebitis and thrombosis of the lateral sinus. At times two or even more of these complications may exist at the same moment in the same case. Even by post-mortem examination it is occasionally impossible to say which has been the earliest complication consecutive to the middle ear disease. The paths along which septic matter may travel from the middle ear to the intracranial structures are as follows:—

(1) By direct extension (in those cases where the tympanic roof is cribriform).

(2) By extension of the inflammation along the processes of dura mater, passing from the cavity of the middle ear to the base of the brain.

(3) By extension of inflammation along the sheaths of the auditory or facial nerves.

(4) By extension of a septic thrombosis or septic lymphangitis along the arterial, venous, or lymphatic radicles running between the middle ear and the meningeal vessels.

As regards the frequency of these various complications statistics show that by far the most frequent is a purulent inflammation of the membranes of the brain. Not only is this the most frequent, but it is also the most dangerous sequela, holding out little hope of being amenable to either surgical or medical interference. At times the progress of the inflammation is very rapid, spreading from the base over the cortex of the same and even of the opposite side of the brain. At other times, however, the purulent process is localised. As in other serous membranes, plastic exudation may limit the progress of the disease.

These complications occur, for the most part, in old standing cases of ear disease.

The tympanic mucous membrane serves a double function, being, in reality, a muco-periosteum. In chronic cases where ulceration of the mucous membrane has taken place the underlying bone becomes diseased. The Haversian canals and the canaliculi become opened up, and form ready receptacles for the lodgment and subsequent transference of the septic products of inflammation. Recent researches upon the ætiology of purulent middle ear disease have demonstrated the important part played by the presence of various micro-organisms in the production of secondary intracranial complications. Whether particular organisms are capable of producing particular complications is a question which must, as yet, remain undetermined. These complications are found more frequently in adults. This may be explained—(1) By the greater development of the mastoid cells in adults. (2) By the greater patency of the Eustachian tubes in children, allowing of freer drainage.

On post-mortem examination the pia mater and the subarachnoid tissues are found congested and covered by flaky lymph. The venous radicles are dilated, and the circumvascular spaces filled with leucocytes. The effusion of lymph may be so considerable as to completely cover the base of the brain, and at times even to spread over the cortex. Pus is frequently found along the sheath of the auditory nerve. Micrococci no doubt play an important part in the production of this affection. The exciting cause of the inflammation may be a blow or a chill. An acute septic infection is in this way engrafted upon an ordinary saprogenic

suppuration (Barker. Hunterian Lectures, 1890). In such cases the discharge which previously may have been profuse becomes suddenly very slight or ceases altogether. Pain is as a rule severe, and may be localised or may spread over the head. The tongue is furred, the bowels usually constipated, and the urine scanty and high coloured. The pulse is rapid and small, and the respirations increased in number. The temperature is as a rule considerably raised, and remains high in uncomplicated cases. Paralysis of various muscles or groups of muscles is not uncommon. Vomiting is also an early and frequent symptom. In the following case the pain complained of was at first situated over the region of the mastoid antrum. Gradually, however, it spread over the whole of the right side of the head.

W. B., aged 7, had suffered from purulent disease of the right middle ear since infancy. On examination, the right external meatus was found almost blocked up by a mass of granulation tissue, arising from an area of carious bone upon its superior and posterior walls. A sinus led from this area backwards into the mastoid cells. Pain was complained of over the situation of the mastoid antrum. The temperature was found to be 102° F., the pulse 130, and the respirations rapid. There were occasional twitchings of the muscles of the arms and legs, and conjugate deviation of the eyes was also present. Under chloroform, the mastoid antrum was opened, and a quantity of thick cheesy pus evacuated. All diseased bone was scraped away, and the mass of granulation tissue above spoken of removed. In this way thorough drainage of the middle ear was effected. The patient, however, never rallied, and died the same evening ten hours after the performance of the operation, the temperature having risen to 105° F. On post-mortem examination, the base of the brain was found floating upon pus, which also extended upwards over a portion of the right cortex. The pus was found to have entered the cranial cavity along the sheath of the right auditory nerve. In those cases where the inflammatory process appears to limit itself, as over the roof of the tympanic cavity, the squamous portion of the temporal bone, or in the neighbourhood of the lateral sinus, operative interference holds out some prospect of success. The main difficulty in such cases is that of accurate diagnosis. Where clinical symptoms, however, point to the presence of a localised meningeal inflammation, exploratory removal of several discs of bone is justifiable. There is no doubt that in certain cases, especially among children, the progress of the disease is in this way checked and life consequently saved.

THIRD MEETING, DECEMBER 9TH, 1891.

XV.—*CHANGES IN THE OPTIC TRACTS IN UNILATERAL ATROPHY.*

By R. T. Williamson, M.D., M.R.C.P.

The microscopical specimens show degeneration in the optic tracts and chiasma in a case of unilateral optic atrophy. The specimens were from a patient whose right eye had been completely blind for four years previous to her death from cardiac dilatation. Blindness had come on quite suddenly shortly after rheumatic fever. Ophthalmoscopic examination showed marked atrophy of right optic disc. No perception of light on right side. Left eye—vision, fundus and field of vision normal. Microscopic examination of sections stained according to Weigert's method showed : (1) Almost complete absence of nerve fibres in the whole of the right optic nerve ; left optic nerve normal. (2) In the first transverse vertical sections of the chiasma, nerve fibres were absent from the right half with the exception of a small transverse bundle at its inferior surface ; the left half was composed of normal fibres. The nerve fibres at the inferior surface of the right half soon increased in number, and a small tract of degeneration appeared at the inferior surface of the left half, running outwards and a little upwards. Passing backwards, the degeneration in the right half gradually diminished, and became limited to the superior surface, whilst normal fibres increased on the inferior. The band of degeneration in the left half gradually increased, and then in the posterior part of the chiasma diminished again. (3) *Optic tracts :* Left smaller than right. Naked eye examination revealed a pale area in the centre of right tract, but not in the centre of left tract. Microscopically, there was an increase of connective tissue, and a diminution of nerve fibres in the centre of the right tract. In the left tract was a small area at inner half of inferior surface, in which connective tissue was increased and nerve fibres scanty. A similar but much narrower zone extended along the periphery of inferior and outer side of tract. The changes in the tracts occupied the same position almost up to the external geniculate bodies.

XVI.—*TUMOUR OF THE PITUITARY BODY.*

By W. Thorburn, B.S., F.R.C.S.

The drawings shown represent the appearances of a tumour of the anterior lobe of the pituitary body, accompanied by a large hæmorrhage.

XVII.—*MELANOTIC ALVEOLAR SARCOMA.*

By W. Thorburn, B.S., F.R.C.S.

The specimen shown is a melanotic alveolar sarcoma, and was taken from the skin of the side of the chest of a boy, aged fourteen, being apparently the result of a blow received about a month before the case was seen. There was no recurrence three months after removal.

XVIII.—*ACUTE MILIARY TUBERCULOSIS WITH INFARCTS IN SPLEEN (Card Specimen).*

By H. R. Hutton, M.B.

Anna A., æt. five years. Admitted to hospital October 14th, 1891.

Family History.—Father and mother healthy. Six children living, four dead. Causes of death: 1 diarrhœa, 2 injury, 3 spinal caries, 4 (?) an idiot. The only other living child is also an idiot.

Previous History.—In good health up to fourteen days ago. Was then hit on the head by a school teacher, and complained of headache; four hours later had an attack of epistaxis and headache, followed by swelling and discolouration of bridge of nose. Anorexia, but no vomiting, and no diarrhœa. Three days later cough set in and she was kept in bed.

On admission, pale and ill. Temperature 102°, Pulse 120, Respiration 36. Spleen slightly enlarged. No abdominal tenderness. Liver normal. Heart normal. Lungs no dulness, some rhonchi. Urine contains albumen.

October 20.—Consolidation of right apex. Temperature hectic.

November 19.—Temperature 100°—104° daily. Consolidation at both apices and at right base, with some crepitus. Spleen greatly enlarged.

November 30.—Delirium; no paralysis.

December 2.—Diarrhœa; lungs, consolidation extending rapidly.

December 5.—Death. No distinctly cerebral symptoms.

Post-Mortem, December 7.—Body emaciated. Mediastinal and bronchial glands enlarged and caseating. Pleuræ studded with tubercles. Lungs semi-solid, and thickly studded with tubercles; many patches of broncho-pneumonia; no cavity. Abdomen: No peritonitis; commencing ulceration in intestines in many places; mesenteric glands enlarged and caseating. Liver large and fatty and contains numerous tubercles; some early perihepatitis. Kidneys contain a few tubercles in cortex; capsules

strip off readily. Spleen much enlarged, 6 inches by 3, contains numerous tubercles and two large tubercular infarcts which had caseated and were in process of being absorbed. Brain: Upper surface normal. At base membranes thickened, and around optic commissure and in Sylvian fissures and choroid plexus and in membrane in lateral ventricles there are numerous tubercles, some (in choroid plexus) as large as peas. Cerebellum normal. No large mass of tubercle in any part of brain.

XIX.—*CHRONIC HEPATIC ABSCESS, WITH ADVANCED "AMYLOID" DISEASE OF THE KIDNEYS (Card Specimen).*

By T. N. Kelynack, M.B.

G. E., æt. 34, a plate-layer, when in India, 15 years ago, suffered from "enlargement of the liver." Recently he had an attack of influenza, after which he experienced great and progressive asthenia. On admission into hospital was found to be very thin and somewhat anæmic; the urine contained much albumen, there was little or no œdema, vomiting occurred from time to time, with, occasionally, hæmatemesis. Finally, he became very drowsy and passed into a semi-comatose condition. At the autopsy the *liver* was found to be the seat of a large abscess, the size of a closed fist, and involving the greater part of the lower portion of the right lobe. The *kidneys* were both much enlarged, 9oz. each, and, as shown in the microscopic specimens, are the seat of extensive "amyloid" disease. I am indebted to the kindness of Dr. Dreschfeld for permission to bring forward these specimens. They are preserved in the Pathological Museum of the Owens College.

XX.—*ARACHNOID CYST (Card Specimen).*

By W. J. Potts.

The specimen was obtained from a man aged 54 years. He had been suffering from mental failure for some months, and had been unable to work. On admission to the hospital the principal facts elicited by examination were (1) mental weakness and indifference; (2) evidences of chronic Bright's disease (cardiac hypertrophy and high tension pulse). There was no distinct evidence of alcoholism, though there was a history of intemperance. He remained in hospital a month, during which period he gradually grew worse, became comatose and died.

The post-mortem resulted in the discovery of a large cyst, about three inches long and oval in shape, between the dura mater and the arachnoid, on the right side of the brain. It was situated over the motor

centres and the temporo-sphenoidal lobe. Its contents were blood-stained serum and blood clot. The rest of the brain was normal, the pia mater stripping off quite easily. The kidneys showed signs of interstitial nephritis.

XXI.—*BRONCHO-PNEUMONIA IN AN INFANT (Card Specimen).*

By T. C. Railton, M.D., M.R.C.P.

The sections of lung were from a case of secondary broncho-pneumonia occurring in an infant 15 months old. She was admitted into the Manchester Clinical Hospital on November 13th, 1890, with a history of measles three weeks previously. She remained inside until December 22nd, and during her stay suffered from a serious attack of broncho-pneumonia. The temperature having come down she was then taken out by her parents during the severe weather. She was brought back much worse on January 12th, 1891, and died in the course of a week.

The sections from both lungs showed typical islets of consolidation, with thickening and cell infiltration of the walls of the alveoli and bronchi. The vesicles were filled with proliferated epithelium derived from the walls. There was a conspicuous absence of fibrinous exudation such as is observed in the centres of islets surrounding inflamed bronchioles in some very acute forms of broncho-pneumonia.

FOURTH MEETING, JANUARY 20th, 1892.

XXII.—*LÖFFLER'S DIPHTHERIA BACILLUS.*

By H. Ashby, M.D., F.R.C.P.

The stained specimens shown were those of Löffler's bacillus of diphtheria. Pure test-tube cultivations, obtained through the kindness of Dr. A. Baginsky, of Berlin, were also exhibited. Attention was drawn to the fact that the diagnosis of diphtheria, by means of the detection of the bacillus in the membranous exudation, had now begun to assume some practical shape, and there was a good prospect of the diagnosis being arrived at with certainty in doubtful cases, without any great diffi-

culty and with considerable rapidity. The most ready method was to detach a small piece of membrane and place it for five minutes in a 2 per cent solution of boracic acid, then to draw the piece of membrane along the surface of sterilised blood-serum in a test-tube, and maintain it at a temperature of 37° C. for 12 to 24 hours. At the end of this time if the bacilli were present, characteristic small white rounded colonies were visible along the track of inoculation. The bacilli were stained with carbol-fuchsine and examined with an oil immersion lens. To obtain a pure cultivation a second or third preparation must be made. The bacilli were thicker than the tubercle bacilli, mostly joined together in twos or more, and their ends were darker than the central portions. If an enlarged experience confirmed these observations, a notable advance had been made in the diagnosis of diphtheria.

XXIII.—*RUPTURE OF THE HEART.*

By Dixon Mann, M.D., F.R.C.P.

The patient, a strong healthy-looking man of about forty-five years of age, stooped forwards whilst in the sitting posture, when he suddenly felt faint, and subsequently became profoundly collapsed. He felt an acute pain in the epigastric region. On admission into the Salford Royal Hospital, he was still collapsed and the pain about the stomach was so great as to lead those who first saw him to diagnose rupture of a gastric ulcer.

He rallied, and on examining the heart, it was found that pericarditis with distension of the pericardium with fluid had taken place. The breathing was now very bad, and the patient was slightly cyanosed. Three days after he had another attack, and was again profoundly collapsed, with exceedingly irregular action of the heart. He rallied again and gradually improved for six days, when he was found dead in bed, ten days after the primary seizure.

Post-Mortem.—The pericardium contained several ounces of fresh blood with much partially-organised fibrine. There was a small rupture at the environment of the aorta, and one or two scattered patches of atheroma. Microscopical examination showed that the walls of the aorta gradually thinned down to the margin of the aperture which had formed the base of an ulcer.

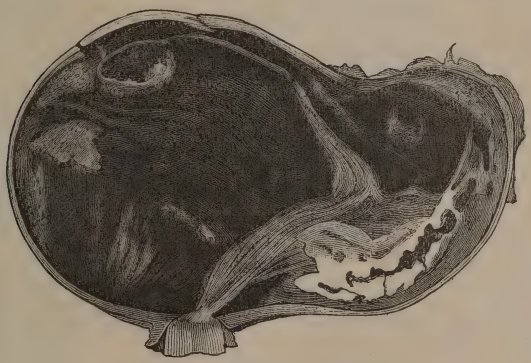
XXIV.—*TUBERCULAR TUMOUR OF THE CHOROID (With Illustration).*

By A. Hill Griffith, M.D.

The preparations and drawings are from a case of conglomerate tubercle of the choroid.

W. H. (Dr. Glascott), aged 2 years. The left eye, which showed general conjunctival injection, was the site of a scleral staphyloma at the outer and lower part. This had been present for one week, and followed an inflammation of six weeks' standing.

As the eye was certainly lost, and there was no reflex, and apparently no perception of light, the globe was removed. As seen in the specimen the posterior half of the staphyloma is occupied by a non-vascular, grey exudation, breaking down in the centre, and apparently continuous with



Tubercular Tumour of Choroid.

the sclerotic. The rest of the eye, with the anterior half of the staphyloma, is filled with stratified blood-clot, through which can be traced portions of the detached retina. Microscopic sections of the entire mass gave convincing proof of its tubercular nature, numerous well marked giant cells, with nuclei arranged round the periphery; surrounded by a fine network of fibrous tissue; caseating centres in abundance, and an absence of blood vessels. No examination was made for bacilli.

I have never seen with the ophthalmoscope a case of conglomerate tubercle of the choroid, but it appears from the observations of others that it might be mistaken for a non-pigmented choroidal sarcoma or a retinal glioma; the presence of inflammation and injection of the eye, and especially the early occurrence of a scleral staphyloma, would be useful in a differential diagnosis. The capsule of the eye seems to soften and melt away before tubercular growths, whereas in glioma, and

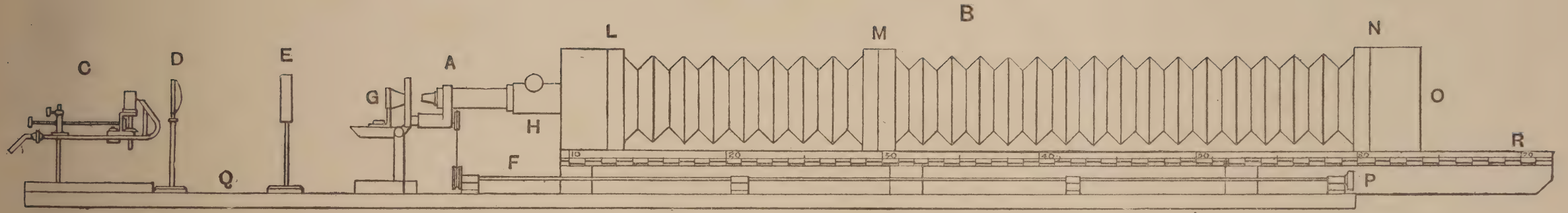
especially in sarcoma, it is very resistent, in the latter only giving way after a period of at least twelve months, or even several years, and then apparently more by the mechanical effect of the increasing tension than by a process of disorganisation and softening.

XXV.—*A NOTE ON PHOTO-MICROGRAPHY* (*With Illustration*).

By T. Harris, M.D., M.R.C.P.

Some time ago I was anxious to obtain a series of photo-micrographs for the purposes of illustrating lectures on diseases of the respiratory organs. As I had but a very limited knowledge of photography, and felt that to obtain good results it was essential to have a thorough knowledge of that art, I obtained the assistance of my friend Mr. D. E. Benson, who, as an amateur, had done a good deal of landscape photography. Mr. Benson very kindly undertook to work at the subject of photomicrography with me. I found that very few of the sections illustrating the group of diseases which I was interested in were suitable for our purpose. Either they were too thick and imperfectly mounted, or the staining agents employed were such as would not give us the best photographic results. I therefore commenced to prepare a fresh series of microscopical preparations, taking care to get sections as thin as possible, to stain them with borax carmine, which we found the most effective stain for our purpose, and to mount them as flat as possible. For teaching purposes, relatively low magnifying powers for sections of morbid tissues are more useful and are more frequently required than large magnifications. It is consequently necessary to get sections which are not only of uniform thinness, but are mounted flat and without folds. The obtaining of sections mounted perfectly flat, so that all points over a considerable area of the section could be brought into focus at the same time on the photographic plate, presented the greatest difficulty, and there were very few sections, however carefully they had been prepared, which gave complete satisfaction to my colleague, Mr. Benson. We tried the effects of various staining reagents, but found the best results could be obtained when the sections had been stained with carmine, and the majority of our photographs have been made from sections stained with borax carmine.

As will be gathered from the above remarks, we commenced with no practical knowledge of photomicrography, and for some time our results, as might be expected, were very unsatisfactory. As it may be of some help to



APPARATUS FOR PHOTO-MICROGRAPHY.

A	Microscope.	F	Focussing Rod.	O	Focussing Screen.
B	Camera.	G	Condensor.	P	Milled Head.
C	Oxyhydrogen Jet.	H	Lens Mount.	Q	Base Board.
D	Bull's Eye.	L M	Short Bellows.	R	Graduations for Extension.
E	Glass Cell.	M N	Long Bellows.		

those who have no knowledge of the subject, the following brief statement, in reference to the apparatus and method employed, is given, for the details of which I am indebted to my co-worker.

Mr. Benson made his own photographic apparatus, and after several unsatisfactory pieces of work had been turned out, that shown in the accompanying illustration was constructed, and with it nearly all the photographs shown to the Society were prepared. We have no doubt that the apparatus, which in many respects resembles that employed by other workers in the same field, though in some points it differs, could be improved upon.

The illustration shows that the system consists of three principal parts—the microscope A, the camera B, and the illuminant C.

The microscope which we employed was one of Zeiss', and is placed on a base board Q, with its tube turned into a horizontal position. The mirror of the microscope, the eye-piece, and the draw-tube were removed, the latter for the purpose of obtaining as large a field as possible, when using low magnifying powers. The microscope tube was lined with black velvet to prevent reflections.

The camera B which we employed was a quarter-plate size, 3¼in. by 4¼in., and was capable of extension to six feet, and of compression to 15 inches from the microscope stage. This range was obtained by having the bellows removable and in two unequal lengths, L M and M N. The short extension was obtained by removing the bellows entirely, and intermediate distances arrived at by using the shorter (L M) or longer (M N) portions of the bellows, and the full extension was obtained by inserting both the longer and the shorter lengths of the bellows.

The focussing screens O which were employed consisted of one of ground glass for rough focussing, and another of plain glass ruled with lines cut by a diamond on that side of the glass nearest to the microscope. The focussing of the object was done with the assistance of a positive eye-piece sliding in a tube, in which its position was so arranged that the lines cut by the diamond on the plain glass were in focus when the end of the tube rested on the focussing screen.

At the end of the camera, opposite to the focussing screen, the rackwork mount of a French portrait lens was fixed, the lenses being removed, and in the end of this was screwed a disc of wood with a hole in it, which, when lined with velvet, slid light-tight on to the end of the microscope tube. This rackwork mount also allowed adjustment of the length of the camera when the bellows were removed, and the two solid ends L and N of the camera were brought together.

The fine adjustment of the focus was done by means of a rod F extending along the base board, and having a milled head P near the focussing screen end and a grooved wheel at the other. A cord passes round the grooved wheel and over the fine adjustment screw of the microscope.

Various means of illumination were tried, but the most satisfactory results were obtained by using a limelight. A very great deal depends upon the arrangements for illumination. The first thing to attend to is the careful centreing of the source of light C, bull's eye D, and the condensor G, and also to see that the axis of these passes through the centre of the focussing screen.

The bull's eye D is arranged so that the limelight is in its principal focus, in which position it throws a parallel beam of light on to the condensor of the microscope, which should be about ten inches distant from it.

When all the above adjustments are complete, the section to be photographed is placed on the stage of the microscope, and the condensor focussed on it. The focussing screen O is removed, and a piece of white cardboard is placed vertically a short distance behind the end of the camera, and the image of the section focussed on the card. The part of the preparation required is by this means easily found when low power objectives are being employed.

The back N of the camera is next moved backwards or forwards until the required magnification is obtained. For our own work a table was prepared, which gave the camera extension necessary for various magnifications, and calculated for each microscope objective. The base board Q being graduated R in inches, the extension necessary to give any particular magnification with any lens, could be at once found from the table, and the end of the camera fixed in the required position at once.

A glass cell E, having an interior measurement of 1 cm., filled with Zettnow's* fluid, is next inserted between the bull's-eye and the condensor. Zettnow's fluid obstructs a great deal of light, but materially assists the colour-selecting properties of the orthochromatic plates. The object is then focussed carefully on the plain glass screen by means of the positive eyepiece, and a piece of cardboard is inserted

---

* The composition of this fluid is given by Neuhauss ("Lehrbuch der Mikro-photographie," 1890, pp. 63 and 64) as follows:—160 grammes of dry pure sulphate of copper, 14 grammes of pure chromic acid, and water added to make 250 ccm.

between the bull's-eye D and the condensor G. The dark slide is placed in the camera, and the shutter drawn. Lastly, the card is withdrawn, and the requisite length of exposure given.

As to the length of exposure nothing definite can be said, it varies with every lens, with every object, and also the impossibility of turning up the oxy-hydrogen light to the same degree of brilliancy for each exposure, introduces a third independent variable. The only way we could do was to experiment, and if the picture was a failure to make further attempts. We chiefly employed Zeiss' achromatic lenses without any eyepiece. Our experience with apochromatic lenses and a compensating eyepiece was not satisfactory, but it is quite possible that further trial will convince us that the results obtained with them by others engaged in photomicrography are more satisfactory than our own with the older variety of objective.

The developer, which was found to answer well, was a mixture of hydroquinon and eikonogen, the alkali being caustic potash.

In printing, the gelatine chloride papers gave the finest results, and showed more detail in the shadows than ordinary albuminoid paper or the bromide of potassium papers.

XXVI.—*TUBERCULAR PERITONITIS AND PERI-HEPATITIS (Card Specimens).*

By T. C. Railton, M.D., M.R.C.P.

The specimens shown were taken from a typical case of tubercular peritonitis and peri-hepatitis occurring in a child.

XXVII.—*SARCOMATOUS EPULIS (Card Specimens).*

By E. Roberts, and G. N. Skipp, L.D.S.

The microscopic preparations and photo-micrographs show clearly the sarcomatous structure of this malignant epulis.

The tumour had been removed from a woman, aged 60. After twelve months there was no recurrence.

The microscopic sections show collections of round sarcomatous cells imbedded in dense fibrous tissue. The epithelium on the surface of the tumour was much thickened.

XXVIII.—*CASE OF MALIGNANT ENDOCARDITIS, EMBOLISM OF SPLEEN AND BRAIN (Card Specimen).*

By F. H. Westmacott.

S. E. C., female, age 11. Admitted into Children's Hospital, Pendlebury, August 20th, 1891, under Dr. Ashby's care. Had chorea and rheumatism last Christmas, lasting three months. Complained of pains in limbs a month before admission. Heart, apex beat in the 6th space, outside nipple line, no thrill. Musical systolic murmur at apex which did not replace first sound; second sound accentuated, no bruit. Other organs normal. Urine contained a trace of albumen. On August 27th there was a pre-systolic murmur with slight pre-systolic thrill. Temperature went up to 100° at night. September 9th, no pre-systolic murmur. Temperature 99° to 103°. Well-marked rough systolic murmur at apex, conducted to left axilla. At 7 p.m. on previous day child complained of pain in right arm and leg. This morning there was complete hemiplegia of right arm and leg, also facial paralysis on right side. Hemianæsthesia of the same side. The child was not unconscious; tongue protruded to the right; speech indistinct and thick, no certain loss of memory for words, could give the names of common objects. Spleen much enlarged. No albumen. Liver enlarged. She underwent very little change during the next six weeks, with exception of increasing weakness, anæmia, and contractures following paralysis. Knee-jerk and ankle-clonus became pronounced. Early on morning of November 24th she became unconscious, with stertorous breathing. She lingered in this state for a few hours and died.

Post-Mortem.—Lungs: Both lungs studded with pale infarcts; hypostatic pneumonia at base of each lung. Heart much enlarged, extending across from nipple to nipple; about two ounces of fluid in the pericardium; no pericarditis. Left ventricle dilated, and containing much dark clot; mitral valve covered with large warty granulations, which can be readily detached, and from one spot there is a piece the size of half a pea hanging by a fine thread. There is also a small patch on the surface of the ventricle, where the mitral valve has impinged. There are also numerous granulations on the anterior surface of the left auricle. All other valves are normal. Liver congested; large; nutmeg. Kidneys: Right kidney contains an infarct of some standing; the left has one at the upper end in a state of yellow softening, and another much contracted; both organs enlarged. Spleen very large—10oz.; contains two large yellow infarcts, one extending right through its anterior edge, and

extending 1½in. into its substance. Brain: Firm and healthy. At the junction of anterior and middle cerebral arteries, on the right side, is an embolus, easily removed, and about the size of a split pea; one of the middle cerebral branches in the Sylvian fissure, on the left side, is white, and apparently plugged by an old embolus. Horizontal sections through the brain show, high up, some surface softening of left ascending parietal convolution. Section through the roof of the lateral ventricles shows softening of convolutions of the island of Reil and caudate nucleus. Section through internal capsule shows a patch of softening, involving lenticular nucleus and anterior part of internal capsule, and below this level the lenticulo-striate artery is seen to be plugged and impervious; the soft parts are rusty in colour. The first hemiplegia was due, no doubt, to the embolism of the left lenticulo-striate artery, and surface softening to that of the left middle cerebral branch, the embolus on the right side having occurred on the morning of her death.

I am indebted to Dr. Ashby for permission to show this case.

XXIX.—*ANEURISM OF THE LEFT VENTRICLE OF THE HEART (Card Specimen).*

By R. T. Williamson, M.D., M.R.C.P.

The specimen shown was an aneurism of the left ventricle which had burst into the pericardium. The patient had suffered from angina pectoris, and death occurred suddenly. The aneurism was situated at the posterior surface of the left ventricle, about midway between apex and base. There was marked atheroma of the coronary arteries, but the cardiac muscle appeared normal, except at the seat of the aneurism.

FIFTH MEETING, FEBRUARY 10th, 1892.

XXX.—*A CASE OF BIRTH PALSY.*

By T. C. Railton, M.D., M.R.C.P.

Cases of infantile spastic paralysis of all degrees of severity, whether dating from before birth, from the time of birth, or owing their existence to some later cerebral mischief, are very nearly as common as cases of infantile atrophic paralysis, and in the treatment of certain forms of disease it is necessary to bear them in mind, otherwise, when slight in

character, they may have their true nature misunderstood. It may require a minute examination to bring out the small amount of spasm, inco-ordination or mal-development of a limb, which, perhaps, constitutes the only visible symptom of the disease. This difficulty is particularly apt to arise in the case of certain epileptiform attacks, in which it is necessary to ascertain whether we have to deal with an idiopathic epilepsy, more or less curable, or with a symptomatic epilepsy (Jacksonian) dependent upon some early cerebral lesion and practically incurable.

The case which follows presents, however, no such ambiguity, it has a definite history of abnormal conditions at birth, and the notes taken during life show in a marked manner the characteristic features of bilateral spastic hemiplegia. The post-mortem-examination renders it additionally interesting, inasmuch as autopsies of such cases have hitherto been comparatively rare.

James O., aged three years, was admitted into the Clinical Hospital, on April 20th, 1891, with the following history :—

The father has always been healthy, but the mother has not been strong, and has suffered from a deformity of the pelvis, which is ascribed to a fall when she was seven years old. At the present time her sacrum projects backwards considerably in the upper and middle portions, and forwards in the lower third, the distance externally from the pubis to the lower part of the sacrum being eighteen centimetres. This lesion probably accounts for the history of her confinements, which is subsequently given. There is no history of syphilis. The father's brother was insane, but there has been no neurosis on the mother's side. Her confinements have taken place in the following manner :—

The first child was still born at full term. No instruments were used. The second was born after a prolonged labour assisted by instruments. The child was apparently healthy and lived until four years of age. The third is now twelve years old ; no instruments were used at the birth, but there was a difficulty in bringing the infant round with hot baths, etc. It was "black in the face," and was not expected to live. The fourth, now nine years old, was delivered with instruments, and was also asphyxiated and not expected to live. The fifth was still born, and was delivered with instruments at full term. The sixth, James, who is said to have been an eight months' child, was delivered with instruments. He was not convulsed after birth, but was "black in the face," and lay as if dead for nearly a week ; he afterwards got gradually better. He has been moderately healthy subsequently, so far as his general condition

is concerned, but has always been paralysed as he is now. He had "inward convulsions" twelve months ago, and lately it has been noticed that his arms occasionally become rigid and thrust behind him.

He was brought up at the breast, and from the first used to grip the nipple with his jaws, so as to cause pain to his mother. He cut his first teeth at seven months. He has never stood nor sat up unsupported, and has never spoken a word. His right eye has been observed to be turned inwards sometimes.

Condition on Admission.—The circumference of his head is 48½cm.; it is symmetrical, but flattened laterally in front, so as to render the forehead somewhat narrower than usual. The longitudinal diameter from the occipital tuberosity to the root of the nose is 17cm. The bitemporal diameter is 10¼cm., and the biparietal diameter is 12¾cm. The ears are well placed and the face is symmetrical, but occasionally the mouth is drawn spasmodically to the right. The palate is not unduly arched, and the tongue appears to be normal. There is neither dribbling, nystagmus, nor permanent squint.

He has a powerful spasm of the muscles closing the mouth when he is fed, which causes him to bite the spoon and renders it difficult to get the latter away, but there does not appear to be any dysphagia. On yawning there is a very marked clonus or shudder throughout his frame, and when moved he becomes so completely rigid, that with one hand placed at the back of the occipital bone and another behind the heels, one can lift him up "all of a piece" without flexion occurring.

His limbs are thin, and he lies habitually upon his side with the head retracted, the right arm flexed at the elbow, the left extended backwards with the forearm pronated. His thighs are crossed and somewhat flexed on the abdomen, the legs are flexed at the knees—especially on the left side, and the feet are in the position of extension. The extensors of the back and the adductors of the thighs are evidently stronger than their antagonists. His legs are thinner and considerably more rigid than his arms, but extreme resistance to passive movement exists at the joints of both upper and lower extremities. His knee jerks are exaggerated and the plantar, abdominal and epigastric reflexes are active. There is a tremor of the hands when they are raised, and the right hand is constantly clenched, with the thumb inside, while the left is in a condition of inter-osseous spasm with the thumb in a similar position. He is very sensitive in every part to tactile impression, and a slight touch suffices to produce a general spastic condition.

His upper incisors are decaying. There are no beads nor other signs of rickets, no enlargement of liver or spleen. The heart and lungs are normal.

On being raised and held under the arms he becomes perfectly rigid, with the arms extended, the head retracted and legs crossed. While in this position the flexion of the legs at the knees, with one knee behind the other, prevents the feet being placed together on the floor, so that the toes of one foot only reach the ground. He has no idea of putting one leg in front of the other, as in the movement of walking. Mentally, he appears to have only a glimmer of intelligence, and cries continuously if disturbed. He is unable to feed himself and passes everything under him.

April 22nd.—Two days after admission the following notes were taken. The temperature rose this morning to 100·4°, but there are no definite symptoms and the ratio of the pulse and respiration is unaltered. His tongue is foul and the breath smells badly. The bowels being constipated a dose of castor oil has been given.

April 23rd.—Temperature 103·4° F. The oil has not acted; he is very restless, but does not cry much; breathing not altered. He is difficult to feed, the food (liquid) appearing to stop at the back of the throat. His general rigidity has become more continuous during the last two days. Ten grains of chloral hydrate have been given by rectum. Bowels continue confined, so the oil has been repeated. No signs of disease are to be found in either chest or abdomen.

April 24th.—Temperature 99·6° F. this morning. The bowels have acted twice. There is no dulness present over any part of the chest, but occasional râles are heard at both bases; it is however, very difficult to auscultate owing to the restlessness of the patient. Temperature reached 105° F. at 6 p.m. and his restlessness has increased. He has had a graduated bath, bringing the temperature down to 100·2° F. The chloral injection was repeated. He has taken food rather better than on the 23rd.

April 25th.—This morning the temperature is again rising, the face looks flushed, the tongue is dry and foul, and the rigidity is continuous, the chloral not appearing to have had any effect. Râles are audible over both bases, but no dulness is present in any part of the chest; there is no dyspnœa.

April 26th.—The patient died at 4-30 this morning, the temperature having dropped to 100·6° F. just before death. About 1 a.m. his breathing was laboured but not very rapid. The tonic spasms continued until death.

Post-Mortem Examination, April 27th.—Commencing post-mortem changes over the abdomen; dorsal hypostasis. Rigidity has passed off the upper, but is still slightly present in the lower extremities. Heart: Pericardium normal. Heart normal in size and not displaced; right auricle distended with semi-fluid blood; right ventricle slightly distended with the same. Left auricle almost collapsed, with a small quantity of semi-fluid blood; left ventricle contracted, and containing a little blood. The tricuspid orifice admits the tip of first finger, the mitral the tip of the little finger. Valves and walls of the heart normal. Lungs: Pleuræ normal; no effusion, no adhesions. Right lung crepitant in all parts, but considerably congested and slightly œdematous, especially in the lower lobe; left lung intensely congested and œdematous in the lower lobe, but no consolidation. Trachea much congested and reddened, the bronchi greatly congested just beyond the bifurcation, especially that of the left lung. Abdomen: All organs normal to the naked eye. Head: The dura mater normal. The general appearance of the brain to the naked eye differs but slightly from the normal, but there is evidence of past meningo-encephalitis and subsequent atrophy in each motor area, for the external surface of each hemisphere shows a slight depression, which forms a shallow groove, most marked near the vertex, parallel with and involving the whole length of the precentral fissure, the fissure of Rolando and the central convolutions. The pia mater about this part of the cortex is considerably thickened, opaque and adherent to the surface, being especially thickened about the sulci, and there are also patches of similar thickening, but to a slighter extent, observable over the upper part of the temporo-sphenoidal regions and at the bases of the three frontal convolutions. The greatest depression upon the surface of each hemisphere is in the upper part of the precentral fissure and base of the first frontal convolution, not in the fissure of Rolando; but both of these fissures form wider and deeper grooves than normal, throughout their whole length, the thickened arachnoid filling up to some extent the depression. The ascending frontal convolution of each hemisphere, intervening between the above-named fissures, is narrowed and slightly depressed below the general level; the ascending parietal convolution is very slightly depressed. The posterior extremities of the first and third frontal convolutions appear to be involved in the damage, especially the superior, which as above mentioned, is very distinctly depressed at its junction with the precentral fissure. The middle frontal convolutions do not appear to be affected. The inner surface of the hemispheres show that the damage has involved the paracentral lobules, which present a slight

depression upon their surfaces, with thickening and opacity of the pia covering them. The posterior portion of the corpus callosum shows a distinct thinning. There is so remarkable a symmetry between the lesions of the two hemispheres that a description of one applies equally to both. The base of the brain and spinal cord are to all appearances perfectly normal. The right hemisphere has been cut up, and various sections of it and of the spinal cord have been made for microscopic examination. Briefly stated, the result of this examination is that the pons, medulla, and the cord in all regions show no trace whatever of any descending degeneration of the pyramidal tracts. Sections perpendicular to the surface have been cut from the ascending parietal and ascending frontal convolutions and the paracentral lobule. These convolutions when cut across present little alteration from the normal shape. Under the microscope they show a diminution in the number of the multipolar ganglion cells, some parts of the cortex being more affected in this respect than others. There is, moreover, a slight apparent increase of neuroglia. There is, however, an astonishingly slight divergence from the normal appearance. The white substance of the convolutions examined does not appear to be sclerosed.

This condition is probably the result of a chronic meningo-encephalitis, which, though it seems to have been insufficient to produce any very considerable change of the outward contour or even of the microscopic appearances, must have terminated, one would think, in a profound alteration of the essential structure of the motor area to produce such symptoms as above detailed. From the history, there can be little doubt that the meningo-encephalitis was the effect of a meningeal hæmorrhage occurring at birth, probably the result of a general asphyxia.*

An unusual clinical feature of the case is the extensive implication of the cortical centres of the mouth, causing an amount of spasm which, so far as I am aware, has not been observed in any previously recorded instance. The complete absence of descending lesions in the motor tracts is also a notable fact, though it does not stand alone. Other cases of a somewhat similar spastic condition, with contractures and exaggerated knee-jerks, have been previously reported, in which no lesions of the cord were discovered after death. Thus Jendrassik and Marie,† in a case of left hemiplegia with contractures, in a girl aged eight years, who had suffered from Jacksonian epilepsy, found after death atrophy of the right

---

* See Little. *Obstetrical Society's Transactions*, Vol. III., 1862.

† *Archives de Phys.*, 1885.

hemisphere, but no degeneration of the pyramidal tract in either pons or cord. Dr. Ross* also, in a case of bilateral porencephalus, found the cord normal throughout.

XXXI.—*A SERIES OF LARGE SECTIONS OF WHOLE ORGANS.*

By Sheridan Delépine, M.B.

The specimens shown consisted of a series of transparent and of opaque sections of whole organs (brain, heart, lung, liver, spleen, kidney, and intestine). The advantages offered by this method of preservation for teaching purposes and for preserving the appearances of lesions was pointed out. One section of lung was described in detail, in which the whole organ had become infiltrated with soft pneumonic products, as a result of destructive lesions of the vagi due to aneurysmal pressure. These pneumonic products were full from apex to base of bacilli of tuberculosis, yet there were no indications, either in the lung or elsewhere, of the formation of any miliary tubercle or of any cheesy products. There was, in fact, a distinct tuberculous infection without any tuberculosis. The bacilli had grown in the pneumonic products just as they might have in a nutrient medicine kept in a test tube and incubated.

The method of preparation of such sections was briefly described, being exactly the same as that used on cutting sections by the freezing method and mounting them in glycerine jelly, only everything was done on a larger scale than when ordinary microscopic sections were wanted. The method was first described by Professor Hamilton more than ten years since.

These sections are preserved in the Pathological Museum of the Owens College.

XXXII.—*A CASE OF ACUTE NECROSIS.*

By P. Ashworth, M.D., F.R.C.S.

The case I wish to bring before the notice of this Society is that of a girl, aged 13. She had always enjoyed good health, but had been growing very rapidly for the last year or two. On October 26th, 1891,

---

* *Brain*, Vol. V.

she began to complain of pain in the legs; this gradually got worse, and she was sent to the Clinical Hospital on November 4th by a practitioner in the neighbourhood as a case of rheumatic fever, and admitted under Dr. Railton. For several days she exhibited no other symptoms except pains in the legs and various joints, together with a high but somewhat erratic temperature. On November 10th Dr. Railton discovered subcutaneous abscesses in front of each leg, and pronounced the case to be one of pyæmia, and asked me to take charge of it. I opened the abscesses, and let out a large quantity of thin ichorous pus, with bits of broken-down débris. On probing, several inches of the anterior surface of each tibia were found to be quite bare. Next day the knee-joint was opened and drained, the contents being similar to those of the abscesses in front of the tibiæ.

At this time the patient exhibited grave constitutional symptoms. Her face was pale and dusky, with dark rings round the eyes; pulse rapid and weak, temperature remittent, foul tongue, diarrhœa and muttering delirium at night. For several weeks she was dressed regularly once or twice daily, often under chloroform, in order that incisions might be made when necessary, and thorough washing of the abscess cavities might be carried out. Drainage tubes were passed right through both legs from front to back between the periosteum of the tibia and the bone. She seemed to improve in her general condition during this period, and took a fair amount of nourishment, but locally matters went from bad to worse. The dressings were always saturated with discharge, and the right knee-joint with its ligaments became so disorganised that considerable genu valgum developed, although the limb was well supported with splints.

Early in December a spontaneous fracture was discovered high up in the shaft of the left tibia, and a little later the right humerus became swollen and painful about its middle, and was discovered to be fractured. An incision was made, giving exit to a considerable amount of pus, and a drainage tube passed right through the upper arm.

From this time she gradually sank, diarrhœa became very profuse, and she died on December 19th.

After death both tibiæ were removed and were each split longitudinally into two halves by means of a saw.

In the process of sawing through the right tibia two fractures developed, one about an inch below the epiphysis and the other three or four inches lower down at a point corresponding to the lower limit of the denuded periosteum. I do not think these fractures were altogether

accidental; it is true they were caused by the process of sawing, but the lines of fracture were previously determined by the fact that these were the lines along which separation would have taken place if the girl had lived. The portion of bone between these two lines of fracture was almost, if not quite, dead The compact external portion was white, and afforded a striking contrast to the pinkish healthy bone below. The medulla was also dead, with the exception, perhaps, of a small portion which appeared to be more vascular and suppurating, but not yet quite dead. The whole of this portion of bone between the two lines of fracture was entirely denuded of periosteum except a thickened ridge about half an inch wide on the inner aspect, which had already formed fresh bone, giving quite a gritty sensation when cut with a knife. Considerable portions of the denuded periosteum were entirely wanting, but what remained was exceedingly thick, and on dissecting it off a little where it was still adherent, the eroded character of the bone beneath was well seen, showing where separation had already commenced. The upper articular surface was denuded of cartilage, with the exception of a narrow strip or two at the periphery, and in the middle along the line of section. The condyles of the femur were similarly denuded of their cartilage. The piece of bone between the upper line of fracture and the epiphysial cartilage was engorged and intersected with large suppurating channels, but was not yet dead, although probably, portions of it would have come away. The epiphysial cartilage was only slightly invaded in two places, one in front, corresponding to the downward prolongation of the epiphysis, and the other in the middle for about half an inch. The epiphysis itself was firm and not much affected.

The left tibia showed a spontaneous fracture slightly higher than the upper artificial fracture of the right tibia. The epiphysial cartilage was also more invaded, but the epiphysis itself was even firmer than on the right side, whilst the articular cartilage was quite intact, the left knee-joint having been unaffected. Below the seat of fracture the bone was quite dead for a couple of inches, and it was quite evident where the separation would have taken place later. The periosteum, portions of which had been entirely destroyed, was again separated from the necrosed bone all round, with the exception of a thickened portion on the inner aspect, which, like that on the right tibia, had already begun to form new bone. Below the necrosed portion the medulla was very much engorged.

There are very many points of interest to be mentioned :—

(1) Such cases are comparatively rare, and are, therefore, of more interest than the more ordinary inflammatory conditions of bone.

(2) What one might almost describe as the usual mistake in diagnosis was made. It was sent into the Clinical Hospital as a case of rheumatic fever, and it is well known that these cases are often, in the early stages, mistaken for rheumatic or typhoid fever. It would almost seem as if this mistake were, to some extent pardonable, as it was not until five days after her admission that symptoms developed showing what it really was.

(3) With regard to the ætiology of these cases, it is strange that in a girl previously healthy such a serious disease should suddenly develop without any apparent cause. There had been no history of injury, nothing at all except rapid growth, and it must be that in some way or other in these cases the rapidly growing and highly vascular bony structures offer a suitable nidus for the infective micrococci, which reach them through the blood. The blood, again, is probably infected from the lungs.

Bicker, in his experiments on animals, says that he got no results in injecting the micrococci into the circulation unless the bones had been previously bruised or broken. Rodet, on the other hand, says that on injecting micrococci into the venous circulation of rabbits, suppurative inflammation developed in the bones, especially in those parts in process of active growth, without any previous injury having been inflicted. The above case would seem to support Rodet's contention.

(4) As regards the prognosis in these cases, it is always grave—in fact, almost hopeless. The case here would come under observation at an early stage, and was treated pretty vigorously, but in spite of this her strength would not hold out long enough against the profuse suppuration and the slow recuperative process of nature. I believe that by some authorities much more vigorous measures of treatment than those adopted have been proposed, such as amputation through the thigh, but it seems to me that even before one could decide to do this, the constitutional symptoms of pyæmia are already present. Again, double amputation through the thigh is itself a very serious process, so that the treatment adopted in the above case was probably such as would generally be adopted.

(5) The last point of interest, and undoubtedly the most important, is the determination, if possible, of the exact pathological process in these cases; that is, whether the disease commences in the medulla, in the bone, or in the periosteum. Pathologists are divided on this matter—some maintaining that it always commences in the medulla, and especially on the diaphysial side of the epiphysial cartilage, spreading along

it to the periosteum, beneath which pus is poured out, lifting it from the subjacent bone along a greater or lesser portion of the diaphysis, whilst others believe that it commences in the periosteum, and the changes in the medulla are secondary. This difference of opinion is well shown in the variety of names given to this disease by different observers. Thus it has been called "acute periostitis," "osteomyelitis," "phlegmonous periostitis," "diffuse phlegmonous periostitis," "acute sub-periosteal abscess," "epiphysial ostitis." This confusion and discrepancy of opinion is easily accounted for by the fact that very often when the bones are examined, all these parts of the bone—periosteum, compact tissue, and medulla—are so equally involved that it is almost impossible to tell where the disease commenced. Therefore, any specimen which helps to clear up this point is worthy of being brought before the notice of this Society. I think that in carefully examining these bones we must conclude that the inflammation commenced in the periosteum, and not in the medulla at the epiphysial line. I come to this conclusion for several reasons:—

(1) If the medulla had been first affected we should have expected the necrosis to be more advanced here, whereas in the right tibia whilst the compact bone was quite dead there is still a portion of the medulla which was probably not yet dead.

(2) If it commenced at the epiphysial line the process ought to be most advanced there. But this was not the case. In the right tibia the periosteum was still adherent to the portion of bone between the epiphysial cartilage and the upper line of fracture, and although intersected by purulent channels it was certainly not dead. Again, the epiphysial cartilage was almost intact, and the epiphysis firm and apparently healthy. It was here the articular cartilage was eroded, and it might be argued that this was due to the knee joint having become affected by the continuous spread of the inflammation through the epiphysis to the joint; but if this were the case, would not the epiphysis itself have been more affected? It is far more probable that the inflammation and suppuration of the right knee joint was brought about by spreading of the inflammation along the periosteum to the synovial membrane, or even by embolic infection similar to that which must have taken place in order to produce suppuration and spontaneous fracture of the shaft of the right humerus.

This opinion is further supported by examination of the left tibia. Here the inflammation and necrosis certainly extended further up the bone almost to the epiphysial line, and the epiphysial cartilage was more invaded, but still the portion of bone between the epiphysial cartilage

and the fracture was not wholly dead, like the bone at the seat of fracture and below it. Again, the epiphysis itself was even firmer than that of the right tibia, whilst the articular cartilage was quite intact and the right knee joint unaffected. In both tibiæ it would seem as if the inflammation had spread upwards towards the epiphysial line, and that the cartilage had only recently given way. If the girl had lived longer the epiphysial itself would probably have become inflamed.

It is, of course, presumptuous to speak dogmatically on such a difficult pathological point in the light of a single case, but looking to this case alone, I think the following inferences may be drawn :—

(1) The disease came on without injury. There was nothing but rapid growth as a predisposing cause.

(2) It commenced in the periosteum, and later the medulla was affected in two ways :—(*a*) by osteomyelitis and subsequent necrosis ; (*b*) by necrosis without osteomyelitis. For instance, in the left tibia above the line of fracture there was osteomyelitis and some necrosis as a consequence of it, but at the seat of fracture, and for some distance below it, the bone showed simply necrosis, without any sign of osteomyelitis. Again, in the right tibia, above the upper line of fracture, between it and the epiphysial cartilage, there was suppurative osteomyelitis, which would have been followed later by some necrosis, whilst lower down there was necrosis without any osteomyelitis. Thus *there may be complete necrosis of the shaft of a bone resulting from acute periostitis without any osteomyelitis being present at any time.* This is easily understood when we reflect that the vascular supply of the medulla is cut off when the periosteum is raised from the bone, and this takes place so quickly that osteomyelitis has not had time to develop before the bone is killed *en masse.*

(3) If the disease commenced in the medulla on the diaphysial side of the epiphysial cartilage, at all events, its consequences were most marked considerably lower down.

(4) The best name for this disease, having regard to its origin, course, and complications, is *acute infective periostitis.*

XXXIII.—*A CASE OF FRACTURED SKULL IN AN INFANT.*

By T. N. Kelynack, M.B., Ch.B.

Clinical History.—James D., aged five months, on the evening of Saturday, January 23rd, was being carried by his sister, a little girl of seven. The child stumbling permitted the infant to be projected for-

wards out of her arms, and its head came into forcible contact with the stone flags. On examination at the Infirmary, the house-surgeon, Mr. Berry, found slight swelling in the right occipital region, but no wound. There was no evidence of fracture, and the infant presented no symptoms of cerebral disturbance. By the following Monday, January 25th, the swelling had disappeared, but the child was drowsy and irritable. In the evening the temperature rose to 106·2°, and three convulsive attacks occurred, the face, arm, and leg of the left side being mainly affected. The following day the child was still more drowsy, and attacks of twitching and rigidity frequently occurred, the right side being also involved, but to a less extent than the left. Temperature 103°. On Wednesday, the 27th, the infant was quite unconscious, and presenting usual signs of cerebral compression. Convulsive attacks continued, but ceased some hours before death, which occurred the same night.

Autopsy.—At the post-mortem examination no sign of external injury was visible. The vault however, presented an extensive fracture, commencing a little in front and above the right parietal eminence, and running downwards and backwards across the lambdoid suture into the occipital bone, but with no displacement of fragments. There was no laceration of the underlying dura mater, but a very distinct subdural clot was present on the opposite (left) side, apparently due to contrecoup. The anterior part of the convexity of the brain showed acute leptomeningitis. The upper part of the frontal and parietal lobes, extending downwards to Sylvian fissure of each side, was of a yellowish-white appearance, due to deposition of semi-purulent lymph. The opacity was most marked along the vessels of the pia-arachnoid, evidently from distension of their lymphatic sheaths. The pruriform effusion was most marked on the right side. The posterior lobes, while free from all opacity, were of a diffuse redness, from the general injection of all the fine vessels. The longitudinal and lateral sinuses contained no thrombus. There was no tuberculosis, but the child was distinctly rickety. All the organs were normal, except for a recent pulmonary hæmorrhage in the left lower lobe.

Fracture of the skull in infants is so rare an occurrence that the present case appears of sufficient interest to be brought before the notice of this Society.

I am indebted to the kindness of Mr. Southam for permission to bring forward the notes of this case.

The skull-cap and brain are preserved in the Pathological Museum, Chatham Street.

XXXIV.—*BILATERAL CEREBRAL HÆMORRHAGE.*

By T. N. Kelynack, M.B.

The brain shown was from a man aged 64, presenting an intra-capsular hæmorrhage on both sides. The clinical history showed that these clots, which were apparently similar in appearance and extent, had been formed within twenty-four hours of each other, the first appearing three and a half days before death. There was general atheroma of vessels. I am indebted to Dr. Judson Bury, under whom the patient was admitted to hospital, for permission to show this case.

The specimen is preserved in the Chatham Street Pathological Museum.

XXXV.—*ILEO-UMBILICAL DIVERTICULUM CONTAINED IN THE DISTAL END OF THE UMBILICAL CORD (With Illustration).*

By Henry Ashby, M.D., and G. A. Wright, F.R.C.S.

The infant at birth was healthy, and Dr. Serra, of Eccles, who attended the mother in her confinement, tied the cord in the usual way

Fig. 4.—Section of Ileo-umbilical Diverticulum.

(*a*) Central canal continuous with Meckel's diverticulum. Diverticulum lined with villi.

(*b*) Remains of villi of everted portion of mucous membrane.

(*c*) Tubular glands.

(*d*) Remains of muscular coats.

(*e*) Section of blood vessels.

The muscularis mucosæ are also seen.

and noticed nothing abnormal. In a few days the cord shrivelled up and separated, and it was then noticed that instead of the remains of the cord coming completely away, a red vascular projection was left,

between two and three inches in length. The infant was first seen by us when five weeks old; at this time there was a red fleshy projection at the navel, one and a half inches long, which was exceedingly vascular, the lint with which it was dressed being constantly stained with blood. At the proximal end it was covered to some extent by skin continuous with the skin on the abdominal wall; at the distal end it was rounded, and perforated in the centre by an orifice, through which a probe could be passed into the abdomen for some three inches. A thin mucous discharge escaped from the orifice, but later it was noticed that bile-stained fluid escaped in small quantities. The protruded mass was ligatured and removed, the patient making a complete recovery.

A microscopical section cut transversely showed the following structures. Externally there was mucous membrane, with remains of villi and tubular glands, and a thin layer of muscular tissue forming the muscularis mucosæ. Inside this was connective tissue, with traces of muscular fibres and blood vessels; internally there was another layer of mucous membrane, with muscularis mucosæ, villi and tubular glands. This condition of things was no doubt due to the persistence of the vitelline duct in the proximal part of the cord, and its conversion into intestine. After the distal part of the cord became detached, a prolapse took place of the whole thickness of the tube, hence in the section two layers of mucous membrane are seen, with an intervening muscular and connective tissue layer.

XXXVI.—*LOCALISED SUBCRANIAL BLOOD CLOT* (*Card Specimen*).

By T. N. Kelynack, M.B.

Large supra-dural blood clot situated over right motor area and extending forwards and downwards over right frontal convolutions, and producing considerable compression of underlying brain.

Removed from a boy of 16, who received fracture of skull during the course of a street fight.

SIXTH MEETING, MARCH 9TH, 1892.

The President, Dr. Railton, feelingly referred to the severe loss the Society had recently sustained by the death of Dr. James Ross, and suggested that a letter should be sent to Mrs. Ross, conveying the deep sorrow of the members of the Society, and their sincere sympathy. A resolution to this effect, proposed by Dr. Leech and seconded by Dr. Dixon Mann, was unanimously adopted, in silence, all the members standing.

XXXVII.—*CASE OF CANCER OF THE LUNG, TERMINATING IN SOFTENING AND CAVITY AND COMPLICATED WITH PARENCHYMATOUS NEPHRITIS.*

By D. J. Leech, M.D., F.R.C.P.

J. C., aged 53, enjoyed good health until January, 1891, when he began to suffer from cough and a feeling of tightness over the chest, and soon afterwards he noticed blood in the expectoration.

During the remainder of the year his health gradually failed, and he constantly expectorated blood-tinged mucus, but his cough was not severe, nor did he suffer seriously from dyspnœa or pain; though weak, he was able to continue his work. At the beginning of 1892 he noticed occasional œdema of the legs and slight puffiness of the eyelids, but he was able to work until January 14, 1892, when increasing weakness, cough, and dyspnœa caused him to give up his employment.

He was admitted into the Infirmary on the 21st of January, 1892, and at this time had the aspect of a man suffering from Bright's disease.

There was a little œdema of the legs, and his face looked somewhat pale and puffy, not shrunken and sallow. He weighed 140lb., and said that during the year he had lost 56lb. in weight.

He was bringing up a large quantity of frothy, blood-stained sputum, and had sonorous and sibilant rhonchi all over the chest, with some moist sounds at the bases. He had a troublesome cough, and the respiration was slightly quickened (24). At the front of the chest the resonance appeared normal, but behind there was some dulness at the lower part of the right lung, with impairment of the vocal fremitus. The temperature was somewhat raised and the fingers distinctly clubbed.

During the first few days of his stay in the hospital he passed very little urine—about 8 ounces in 24 hours. It contained much albumen and abundant epithelial with some granular casts. The liver was enlarged, extending about 1½ inches below its average limit.

On the 27th of January the dulness at the right base had markedly increased, and a small quantity of clear liquid was drawn from the pleural cavity by a fine needle. Careful measurements at this time indicated no difference between the two sides of the chest.

He continued to expectorate the blood-tinged sputum, and the auscultatory sounds remained for some days the same, with the exception that the breath sounds became weaker over the right base; he complained, too, of pain in the right shoulder.

Diuresis commenced on the seventh day after his admission into hospital, the average quantity of urine per diem rising from 8 to 50 ounces. The casts became, of course, less numerous, but still were found. Later on, the quantity of urine became subnormal, and the œdema, which at first seemed to disappear, became again distinct, but never very marked.

The dulness over the right lung and the dyspnœa gradually increased, and soon extended a little beyond the middle line in front. He began to suffer from much difficulty in breathing, and on the 7th of February paracentesis was performed near the lower angle of the right scapula, 27 ounces of almost clear fluid being withdrawn. It was noticed that in introducing the trochar it seemed to pass through some unusually dense tissue. On the day following the operation it did not appear that the dulness had been markedly decreased by the removal of the fluid; but the line of the dulness in front, which had previously extended to the left of border of sternum, now only reached this border at mid-sternum; above and below it did not extend beyond the right border.

Although the dulness behind extended almost to the spine of the scapula, the girth of the right side was only 18 inches, whilst the left measured 18½ inches.

Gradually the patient failed in strength. There was an evidence of increase of fluid in the right pleural cavity, and the respiration over the dull area became gradually annulled, but was never either bronchial or hollow. In the front and upper part of the chest a few rhonchi could always be heard. The breathing became more and more embarrassed, and he died on the 22nd of February. Two days before his death, 60 ounces of turbid serum were withdrawn from the right pleural cavity. During the whole time of his stay in hospital the expectoration was copious and blood-stained. No bacilli could be found in it, no cancer cells were noted, and only on one occasion some doubtful indications of the presence of lung tissue. The temperature was raised throughout the illness, and ranged usually from 99° to 100·5°, only reaching 101° on two occasions.

Dr. Kelynack, Pathologist to the Infirmary, has been good enough furnish me with the following report of the autopsy, and of the microscopic examination of the tissues :—

External: The body is that of a well-formed, moderately-nourished pale, middle-aged man, having the appearance often seen after death from Bright's disease. There is slight œdema of the lower extremities.

Internal: The right pleura is very considerably thickened, and at the upper part the costal and pulmonary pleuræ are adherent and firmly fixed to the chest wall, the lung being pressed upwards and backwards, and attached by a thick, tough, fibrous formation to the upper, outer, and posterior part of the pleural cavity, and along the spinal column, and also to the upper surface and posterior part of the diaphragm. The pleura is much thickened, but most markedly so in its upper part; it presents no nodules or irregularities of growth, but looks as if affected by a chronic indurative pleurisy. In parts the thickened pleura sends bands inwards. The lower and outer part of the pleural cavity is converted into a large irregular space, and contains a considerable quantity of turbid serous effusion. The left pleura is normal.

The *right* lung weighs 46 ounces. It is small in size, and encased by pleura thickened everywhere, but especially at the posterior and upper part of the lung. On making a section from the outer surface of the lung towards the root, a large cavity is seen, corresponding in size to about half the area of section. It is irregular in shape, occupying the middle and outer part of the lung. The outer boundary (corresponding

to the axillary region) is in one part composed of thickened pleura only. Internally, towards the root of the lung, there is a considerable quantity of infiltrated lung tissue. Prolongations of the main cavity extend upwards and downwards to within an inch of the base and apex respectively. The cavity contains pultaceous, but not offensive, material, with shreds of lung tissue. On washing the lung, the surface of the cavity appears rough and shaggy. At several spots there are patches of bright red granulations.

The greater part of the remainder of the lung is firm, tough, and greyish-white, owing to extensive involvement by new growth. The larger bronchi are surrounded by an infiltrated growth, which, however, does not appear to occlude their lumen, and from the arrangements and distribution of growth it does not appear to have originated in connection with the bronchi.

The *left* lung weighs 39 ounces, and is large and voluminous, with distinct emphysema along the border. On palpation, numerous small areas of consolidation can be felt, especially in the upper lobe. On section the lung is found to be very deeply pigmented, exceedingly œdematous, and much congested, and the small focal areas of consolidation are found to consist of small fibrous noncaseous bodies, evidently secondary deposits of growth. Neither in the lung nor elsewhere was there any evidence of tuberculosis. The bronchial glands are enlarged, but not greatly so, and they are involved by deposits by growth. There is no mediastinal growth.

Abdomen.—The peritoneum is normal. Just beneath the diaphragm is a small mass of enlarged firm whitish glands, evidently secondarily infiltrated by growth, apparently from extension from the pleural lymphatics. The retro-peritoneal glands are normal, as are also the stomach and intestines. The liver is enlarged, and projects well below the costal margin; it is much congested, but presents no secondary deposits; the gall bladder, spleen, and pancreas are normal.

Kidneys.—Both are enlarged, each weighing 8 ounces. The capsule peels off readily, leaving a smooth mottled surface with marked congested stellate veins. There are several whitish nodules of growth in the right kidney, and one on the surface of the left, evidently secondary deposits. Both organs, on section, show distinct increase of cortex, which is somewhat pale, but presents red vertical lines corresponding to the congested intertubular vessels.

Supra-renal Capsules.—The right appears normal, but the left, at its upper part, presents a whitish, firm elongated nodule of growth.

The *bladder* and *ureters* are normal.

There is nothing abnormal in the head, joints, or other parts of the body.

Microscopic Examination.—*Lung.* Sections through the condensed infiltrated lung tissue present a characteristic cancerous structure, approximating to the so-called scirrhus variety. There is a dense alveolar stroma, the spaces of which are filled with cellular elements.

Many of the cells are distinctly cubical, with single well stained nuclei, but others are of varying size and shape, some being rounded, others cylindrical, and others again elongated and somewhat pear-shaped, but all are apparently of the epithelial type. The cells do not appear to be closely adherent to the alveolar walls, and there are no well-marked transitional forms passing into the connective tissue of the alveolar stroma. Hardly any blood vessels are seen. The connective tissue stroma is very abundant. In parts there are groups of small cells evidently of inflammatory origin. There is much fibrous thickening of the pleura, and in some sections infiltration of its deeper layers by the epithelial growth is shown.

Bronchial Glands.—The normal stroma is almost entirely replaced by growth which presents a typical carcinomatous structure; while resembling closely in its alveolar arrangement the parts of the pulmonary growth, it differs in that the epithelial elements are much more marked, and preponderate over the stroma. The cells are practically identical in appearance with those seen in the lung.

Kidney.—Sections through the nodules of growth show them to be of characteristic carcinomatous nature. There is congestion of the renal vessels, and some parenchymatous change in the tubules.

Supra-renal Capsules.—Here, also, the nodule of growth is of a cancerous nature. It affects only the upper part of the left organ, and is firmly defined from the rest of the tissue, which shows ordinary adrenal structure.

There seems little doubt that the cancerous growth in the lung was of intra-pulmonary origin; from its histological appearance and its distribution it is unlikely that it could have originated in the bronchi. In parts the lung growth presented a somewhat close resemblance to the appearances seen in alveolar sarcomata. The possibility that it might belong to this rare class of cases was kept in view, but careful examination showed that this was not the case; the typical carcinomatous appearance of the secondary deposits confirmed this view.

Remarks.—Primary cancer of the lung is a comparatively rare ailment, and its diagnosis is at times very difficult. In the case of J.C. the presence of kidney trouble made it impossible at first to discover the true cause of the ailment. The man had not only the aspect of Bright's disease, with œdema, albuminuria, and casts in the urine, but he had also diuresis at the end of the first week of his admission into hospital, a symptom which is usually present as the first sign of amendment in acute or sub-acute Bright's disease.

It seems probable, indeed, that an acute parenchymatous nephritis in this case ran its course coincidently with malignant lung disease, though it is uncertain if the kidney mischief was connected with the slight cancerous deposit found post mortem; but it is worthy of note that a very similar case has been recorded by Wunderlich (*Path. u. Therap.*, Bd. III., p. 496). In his case the left lung was affected with primary carcinoma, albumen was present in urine during life and post mortem, the left kidney was found large, with cancerous infiltration of the cortical substance, the rest of the kidney having the appearance of Bright's disease. The condition of J. C.'s lungs on admission accorded well with the view that the patient might be suffering from broncho-pneumonia, associated with a sub-acute exacerbation occurring in the course of chronic Bright's disease. The only symptom leading to a suspicion that a more serious lung trouble might be present was the length of time (twelve months) during which he had expectorated coloured mucus. The clearness of the fluid withdrawn when the pleuritic effusion had become manifest, did not suggest the probability of malignancy, for the pleural effusion in lung cancer is more often than not blood-stained; but the density of the pleura when he was tapped below the angle of the scapula by my house physician—Mr. Brockbank—seventeen days after admission, impressed him with the idea that the trochar passed through scirrhus tissue, and the slight irregularity of the anterior line of dulness after paracentesis, together with the constant blood-stained sputum in which bacilli were often looked for in vain, gave rise to the idea that the case might be due to cancer; but to the last the diagnosis was doubtful. The slightness of the physical signs on admission as compared with the great changes found post mortem, may be accounted for on the view that when he came into hospital a primary cancerous deposit, which had already softened in the centre, was separated for the most part from the external surface of the lung by emphysematous lung, in which infiltrating changes had not progressed far.

In the latter portion of the man's illness the pleuritic effusion was

sufficient to compress all the lung tissue not previously rendered solid by cancerous infiltrations. It is somewhat strange that the physical signs gave no evidence of so large a cavity, which there can be little doubt existed long before the patient was admitted into hospital.

It seems probable that the part of the lung which afterwards became the seat of the cavity suffered earliest and most markedly from infiltrating cancer, which here, as is usually the case, affected the right lung. It did not spread inward from the pleura, for a careful examination of microscopic section showed that the tissue nearest the pleura was most free from infiltration, although in some places the growth reached and involved the pleura; nor was it secondary to cancer in the root of the lung, as in the cases of cavity in lung cancer recorded by Dr. West.*

After softening had occurred in the primary focus the infiltration seems gradually to have spread centrifugally until the whole lung was involved, the inflammatory process accompanying it, and eventually giving rise to the pleuritis which was so marked a feature in this case.

In the treatise on diseases of the lungs by Dr. Wilson Fox, a uniform infiltration, "the cancerous pneumonia" of Rokitansky, which may closely resemble in appearance and firmness the grey pneumonia attending tuberculisation, is alluded to, and it was this form of infiltration which was present in the case now described. The cavity doubtless increased from time to time by softening of the infiltrating tissue forming its external walls, and lung tissue would, doubtless, have been found in the sputum had it been more often looked for. But the presence of well-marked granulations at several spots on the wall of the cavity, which probably furnished the red sputum noted throughout the progress of the case, seems to indicate that the cavity was of long standing, and that in some parts an attempt at repair had been set up.

The specimen is preserved in the Pathological Museum of the Owens College.

XXXVIII.—*ALCOHOLIC CIRRHOSIS OF LIVER; HÆMORRHAGE INTO THE STOMACH; BLOOD CAST OF STOMACH FOUND POST-MORTEM.*

By D. J. Leech, M.D., F.R.C.P.

George Bell (44) was admitted into the Manchester Infirmary on the 28th December, 1891, with ascites, slight anasarca, and the ordinary

---

* *Path. Soc. Trans.*, 1885, p. 84.

symptoms of cirrhotic liver. His illness had commenced about five to six months previously, the first symptom being abdominal distension. During early life he had taken alcohol to excess; he stated that for 15 years he had lived a very temperate life. He remained in the Infirmary six weeks, and during this time paracentesis was performed three times 18—13—20 pints being removed on each occasion respectively from the abdominal cavity. A large amount of fluid was drawn from his legs by Southey's trocars on two occasions, and he took a variety of diuretic medicines without the kidney secretions being materially increased. On the 15th of January the motions were noticed to contain blood, but the hæmorrhage, which was slight, only lasted for a day or two. He gradually got weaker, and became at times slightly delirious on the 2nd of February. At this time it was noticed that he had a sunken appearance. A day or two later he became constantly sleepy, dosing with his eyes half shut. On the 8th of February he became comatose, and died on the 9th.

Dr. Kelynack has kindly furnished me with the following abstract of the post-mortem report :—

Autopsy.—External: Body that of thin, anæmic, middle-aged man; face worn, and of sub-icteric tinge; immense distension of abdomen; slight œdema of lower extremities; no cutaneous hæmorrhages; post-mortem rigidity well marked. Internal :—Head: Dura mater adherent to skull cap. Pia-arachnoid, opaque and slightly thickened. Brain presents no gross lesion. Thorax—Lungs: Both congested and œdematous, slightly pigmented, but crepitant in all parts. Pericardium: normal. Heart: 8oz.; normal, except for slight thickening along border of mitral flaps. Abdomen: Peritoneal cavity distended, with considerable quantity of straw-coloured ascitic fluid; no peritonitis. Stomach contains a large black blood-clot, which forms, as it were, a complete mould of the viscus. The walls are deeply pigmented, much congested, and lined with a layer of thick, stringy mucus. The veins at the lower end of the œsophagus are distinctly dilated and somewhat tortuous, but no aperture of rupture can be detected. Liver: Weight, 32oz., very small, lying well back under cover of the ribs, and separated from the anterior abdominal wall by ascitic fluid and intestine. The surface is very irregular, and, typically "hob-nailed." The capsule is also much thickened, and very opaque. Microscopically, the liver presented advanced multilobular cirrhosis. Spleen: Weight, 12oz.; considerably enlarged, light red, firm, and distinctly fibrous on section. Pancreas somewhat firm, rigid, but otherwise normal. Kidneys, 4oz. each, enlarged; capsule peels off

readily; surface smooth, but congested. On section, relation and appearance of cortex and medulla normal, except for congestion.

The specimens are preserved in the Pathological Museum of the Owens College.

XXXIX.—*TUBERCLE OF HERNIAL SACS (With Notes of Two Cases).*

By F. A. Southam, M.B., F.R.C.S.

The presence of deposits of tubercle in the walls of a hernial sac, or in its contents—omentum or intestine, as the case may be—is a condition which, though not very uncommon, has hitherto attracted little attention, no reference being made to it in works on surgery or in treatises on hernia.

Last year, Jonnesco, a French surgeon, published* a case of this nature, which had recently come under his observation. In the same paper he gave particulars of all the cases hitherto recorded, which are only ten in number, and all occur in foreign literature.

From a consideration of these cases, it appears that deposits of tubercle may originate in a hernial sac or its contents, and there remain localised, at any rate, for a time. In other instances the peritoneal lining of the abdominal cavity also becomes affected, or there may be deposits of tubercle in other parts as, for example, in the lungs.

It is suggested that given a predisposition to tuberculosis and the co-existence of a hernia, the sac or its contents are likely spots for the manifestation of tubercle, for the following reasons:—

(1) The hernial sac forms a dependent pouch or recess shut off from the general peritoneal cavity, where the circulation is carried on somewhat feebly.

(2) The contents of the sac, as well as the sac itself, are occasionally the seat of slight attacks of inflammation.

(3) They are also continually subject to irritation of various kinds, as, for example, attacks of obstruction, external friction, the pressure of a truss, etc.

It seems not improbable that these causes combine to render a hernial sac, as it were, a *locus minoris resistentiæ*, favourable for the selection and development of tubercle.

---

* *Revue de Chirurgie*, March, 1891.

This condition is well illustrated by the following cases recently under my care. In both instances it was met with during the performance of an operation for the radical cure of hernia, and no suspicion of its existence had been previously entertained, as neither patient manifested any indication of the presence of tubercle.

Case 1.—A man, aged 27 years, was admitted into the Manchester Royal Infirmary in May, 1891, suffering from a right inguinal hernia.

According to his statement there was no family history of tuberculosis, and he had always enjoyed good health, except that about three years previously he had been troubled with slight hæmoptysis for several months.

The hernia, which had been present for six years, and for which he had never worn a truss, was the size of an orange, quite irreducible, and apparently consisted entirely of omentum. As it was a constant source of annoyance, interfering with his occupation, an operation for the radical cure was performed.

On opening the sac it was found to contain only a large mass of indurated omentum somewhat pedunculated in shape, which was removed by ligaturing its pedicle as high up as possible. Examination of the sac wall showed that its inner surface was studded over at the fundus with a number of small nodules the size of peas.

As it was impossible from a simple inspection to say whether the induration of the omentum and the nodules in the sac wall were due to infiltration with a new growth (sarcoma?), or to the presence of tubercle, it was thought advisable to remove the entire sac together with the testicle to which the former structure was closely adherent. The neck of the sac was then ligatured, and the wound was closed. Healing quickly took place, and the patient made a good recovery from the operation.

When he was last seen, nine months subsequently, he was in the enjoyment of good health. The wound was soundly healed, there was no indication of any return of the hernia, and he presented no evidences of further development of tubercle either in the lungs or elsewhere.

Case 2.—A boy, aged six years, was admitted into the Clinical Hospital for Women and Children, in September, 1891, on account of a right inguinal hernia, which had been first noticed about six months previously. He had never enjoyed very good health, having been somewhat delicate since birth. His maternal grandmother had died of phthisis.

The hernia was of small size and easily reducible. After reduction, a well defined swelling, of firm consistence, the size of a hazel-nut, could be felt at the bottom of the sac, just above, but quite distinct from the testis. It was not reducible, and resembled an encysted hydrocele of the cord.

As the diagnosis was somewhat obscure, it was resolved to explore the swelling, and at the same time perform a radical cure. On opening the hernial sac, which was quite empty, its inner surface was found to be studded over with numerous well defined nodules, varying in size from a pin's head to a pea. At the bottom of the sac there was an indurated oval mass, the swelling felt through the scrotal tissues previous to operation. The neck of the sac having been ligatured as high as possible, the entire sac, together with the mass at its fundus was removed, the testis not being interfered with. Though the wound was somewhat slow in healing, the patient made a good recovery from the operation, and left the hospital at the end of a month.

When last seen, about six months subsequently, he was in the enjoyment of much better health than previous to the performance of the operation. There had been no return of the hernia, and though his chest and abdomen were carefully examined, no further evidence of the presence of tubercle could be detected.

Our President, Dr. Railton, has kindly examined the nodules in the sac wall in both cases, as well as the deposit in the omentum in the first case, and he reports that they present all the histological characteristics of tubercle.

Though the prognosis cannot be regarded as favourable in either patient, yet, as intervals of six and nine months have now elapsed since operation, and as they both remain free from any evidences of tubercle, there is some reason for hoping that no further manifestation will take place.

It is now a recognised fact that in the early stages of tubercular peritonitis, laparatomy and drainage is often followed by a cure as regards the local disease, and in many instances there is no further development of tubercle in other parts of the body. If this is the case in general tubercular peritonitis, there is no reason why a similar result should not be obtained when the disease is as yet localised to a hernial sac, and, therefore, capable of being removed, as in the two instances above recorded.

XL.—*TUMOUR OF BLADDER.*

By F. A. Southam, M.B., F.R.C.S.

The specimens, a number of papillomatous growths, were removed from the bladder of a female, aged 51 years. For about two years she had suffered from attacks of hæmaturia, at first recurring at irregular intervals, and unaccompanied by any pain or evidence of irritation of the bladder. Latterly, the bleeding had become more continuous and more profuse, and micturition had also been attended by pain and increased in frequency.

As the symptoms pointed to the presence of a vesical growth, the urethra was dilated under chloroform until it would admit of the introduction of the finger into the bladder. On exploring the interior of the bladder, its base was found to be studded over with numerous sessile growths, the largest of which was about the size of a walnut, of such soft consistence that they were easily removed by scraping through their bases of attachment with the finger nail and a Volkmann's spoon. Very little hæmorrhage accompanied the operation, from which the patient made a rapid recovery. She left the hospital at the end of three weeks, and when last seen, six months subsequently, she was in the enjoyment of good health, being quite free from any bladder symptoms, there having been no recurrence of the hæmaturia since the operation.

Microscopical examination of the growths showed them to be of the nature of papillomata.

It was remarked that the case presented the characteristic symptoms usually met with in papilloma, or so-called "villous tumour of the bladder," viz., hæmaturia, at first intermittent, and for a considerable period—in this instance for nearly two years—unaccompanied by pain or any evidence of irritation of the bladder. In course of time the bleeding, however, usually tends to become more continuous and more profuse, the attacks lasting longer on each occasion and becoming separated by shorter intervals until at length blood is always present in the urine. Sooner or later, symptoms of cystitis are generally superadded, the growth, when it attains any size, and especially if it is situated near the neck of the bladder, acting as a foreign body and setting up inflammation of the vesical walls.

Attention was also directed to the character of the hæmorrhage in cases of vesical tumour, the blood being usually of a florid or crimson colour, and present in considerable quantity, especially towards the

termination of the act of micturition; these conditions being accounted for by the delicate structure of the growth and its rich supply of thin-walled vessels, the latter readily rupturing as the result of the pressure to which they are subjected every time the bladder contracts and empties itself of its contents.

It was also pointed out that though the prognosis was usually favourable after removal in cases of papilloma, as the growth was essentially of a simple nature, yet in some instances a return took place, and under these circumstances the recurrent tumour might take on sarcomatous action. To illustrate this point, reference was made to a case brought before the Society several years ago by the President (Dr. Railton) and Mr. Southam, where the primary tumour, a pure fibro-papilloma, was removed by suprapubic cystotomy. Death took place about nine months subsequently, and at the autopsy the bladder contained a recurrent growth, which in places was found to be a fully-developed sarcoma.

XLI.—*A CASE OF COMPLETE EXTIRPATION OF THE LARYNX BY A SUICIDE.*

By J. Dixon Mann, M.D., F.R.C.P.,

With Notes of the Case by R. E. Lord, M.D.

John D., aged 58, was brought to the Salford Royal Hospital at 4 a.m., on February 25, 1892.

It was stated by his son that he had cut his throat, an hour before, with a potato-knife, and that he had extracted from it a lump of gristle, which turned out to be the larynx.

The patient was pulseless, but gave two or three gasps before he died in the accident-room, five minutes after admission.

On examination of the wound in the neck it was found to measure three inches across at its upper limit, which was formed by a triangular flap of skin peeled up from the tissues. The right margin of the gap was also triangular in shape, its upper edge fitting on to the right edge of the upper flap, and its lower on to the left margin of the wound, which was approximately straight, and ran obliquely from above and to the left, downwards and to the right, at an angle of about 45° to the horizontal line of the neck.

On putting the finger into the wound, the epiglottis was felt attached

to the tongue, and the hyoid bone was *in situ*. The trachea had retracted about two inches below the level of the external wound. None of the great vessels of the neck were injured.

The larynx, which had been brought by the friends, consisted of the thyroid and crycoid cartilages, the first ring of the trachea, and the anterior half of the second ring. It measured 2in. in front and $1\frac{3}{4}$in. behind, from above downwards.

On the right side, the upper border of the thyroid cartilage and the superior cornea had been cut off; and the ary-epiglottidean fold was divided at its posterior extremity, separating the right arytenoid cartilage, the cut extending slightly into the left fold. The right upper border of the thyroid showed three cuts, about $\frac{3}{4}$in. long, passing downwards and backwards; a piece of cartilage, $\frac{1}{2}$in. square, was completely cut out between the anterior and middle incisions.

On the left side there was an incision in the cartilage, passing downwards and towards the middle line for $\frac{1}{2}$in.

As regards the previous history of the case, there was nothing to point to any special delusions connected with the larynx. The patient had had an apoplectic seizure about a year before his death, and since then had suffered from right-sided hemiplegia with aphasia. The hemiplegia had improved considerably, but the aphasia had remained well marked. He had been very low-spirited for some months, but no delusions had ever been noticed, nor had he, as far as was known, ever threatened to commit suicide.

It seems as if the patient had begun with the idea of removing, at all events, the prominent part of the larynx which he could feel in the neck, and to this end had made a right-handed incision passing obliquely downwards and to the right, and a second incision from the middle of this passing upwards and to the right, and then peeled off the skin with his fingers.

From the vertical cuts in the thyroid, he seems next to have tried to cut off the projecting mass of cartilage, but, failing in this, to have cut in between the thyroid and the hyoid; then, having peeled off the larynx from the subjacent parts with his fingers, to have divided the trachea from behind, thus leaving two rings in front and one only behind.

There is a similar case recorded in the *British Medical Journal* for 1883 by Harrison.

XLII.—*UNUSUAL DEGENERATION IN THE SPINAL CORD.*

By R. T. Williamson, M.D., M.R.C.P.

The specimens shown were from a case of transverse myelitis. In addition to the ordinary tracts of ascending and descending degeneration, the direct (anterior) pyramidal tracts were degenerated above the lesion (which was in the upper dorsal region) as high as the junction of the middle and upper thirds of the cervical region. Below the lesion there was the ordinary descending degeneration in these tracts.

XLIII.—*A CASE OF ABDOMINAL ANEURISM.*

By Prince Stallard, M.B.

This specimen of abdominal aneurism was taken from a lady, æt. 89 years, who had been under observation for a period of six years, but who exhibited no symptoms of aneurism until within six weeks of her death. At this time a tumour corresponding in size to an ostrich egg was noticed occupying the epigastric and umbilical regions. It pulsated synchronously with the heart, and was felt to expand when the hand was placed upon it. No bruit could be heard on auscultation over the tumour, it was dull on percussion, and by these means could be isolated from the liver, stomach, and spleen. There were no signs of gangrene or coldness of the lower extremities. Neither was there any pain nor any pressure symptoms beyond very obstinate constipation. There was no history of syphilis nor of any sudden or severe strain. During the last four weeks of life the patient exhibited symptoms of cerebral softening, and death was due to exhaustion. On making a post-mortem examination an aneurism involving the whole length of the abdominal aorta was found extending from the cœliac axis to the bifurcation into the common iliacs. It was of the fusiform kind. There was no erosion of the vertebræ on which it lay. The arteries were found to be markedly atheromatous, showing calcified plates.

The peculiarity of this case lies in (1) the extreme age of the patient; (2) the sex; (3) the absence of subjective symptoms; (4) absence of any cause, such as syphilis or violent exertion. It is a rarity to meet with an aneurism in a woman who was within two months of reaching her 90th birthday, and who, during the whole of her existence had led an easy and inactive life. I have failed to find another instance of an abdominal aneurism existing under similar circumstances, though

doubtless such has occurred. In 63 cases recorded by Hodgson, of which 56 were males and 7 were females, one abdominal aneurism was found only in one female.

Sir Astley Cooper found that aneurisms (all kinds) were most commonly seen between the ages of 35 and 50 years, or during the active period of man's existence. In a table by Lisfranc, tabulating 120 cases, there are only three occurring between the ages of 70 and 80 years, and none beyond that age. In a table by Bizot, of 108 cases containing aneurisms of all kinds of arteries, there were only two subjects who had reached from 80 to 89 years. In 551 cases tabulated by Dr. Crisp, in only three women did the aneurism affect the abdominal aorta.

XLIV.—*INTRA-CAPSULAR FRACTURE OF THE NECK OF THE FEMUR.*

By J. Prince Stallard, M.B.

This specimen is that of a firmly united fracture of the neck of the femur, occurring in an old man aged 71. The fracture was caused by a fall on the hip, whilst walking down some steps. There was marked eversion of the foot and leg, with shortening of the limb. The pelvis and thigh were encased in plaster of Paris, and the patient was kept in bed for about eight weeks, when he was allowed to get up with a sling, and rest on a sofa. At the end of three months the casing was removed, and the patient was enabled to walk with a high-soled boot. He made a very good recovery from the accident, excepting a slight attack of bronchitis, but unfortunately, five months after the accident, and two months after he was able to walk, he was seized with an apoplectic stroke, from which he never regained consciousness, and died two days afterwards. I was only allowed to examine the hip joint after death, and excised the upper portion of the thigh which shows firm bony union in the middle of the neck of the femur. Such a good result must be attributed (1) to not unduly manipulating the leg for the purpose of diagnosis, which rested on the shortening and eversion of the leg, the former being ascertained by the test line (Bryant), which is a line drawn directly upwards from the top of the great trochanter to join at right angles a line drawn directly backwards from the anterior superior spine of the ilium, and (2) to encasing the pelvis and thigh in plaster of Paris, and so enabling the patient to get out of bed early.

XLV.—"*LARGE WHITE*" *KIDNEY ASSOCIATED WITH ATROPHIC KIDNEY—TWO CASES* (*Card Specimens*).

By T. N. Kelynack, M.B.

Specimen 1.—Right kidney: atrophic, represented only by a small mass of fibrous tissue enclosing a few cysts, and a small patch of pigmented tissue apparently originally renal. Left: "Large white." Patient, aged 38, was a plumber. Symptoms only observed during four months. Death from uræmia. Heart was considerably hypertrophied.

Specimen 2.—Right kidney: "Large white." Left kidney: "atrophic," represented only by a mass of fibrous tissue. Patient was a man of 50.

XLVI.—*A SERIES OF SECTIONS OF CORD AND MEDULLA FROM A CASE OF CEREBRO-SPINAL MULTIPLE SCLEROSIS (Card Specimens).*

By T. N. Kelynack, M.B.

These sections, stained in borax-carmine, aniline-blue-black, and according to the methods of Weigert and Pal, were prepared from the cord of a man, aged 32, who during life presented the characteristic signs and symptoms of disseminated sclerosis.*

I am indebted to the kindness of Dr. Steell for permission to make an examination of this case, and for the present opportunity of showing these specimens.

They are preserved in the Pathological Collection of the Owens College.

XLVII.—*LACERATION OF MESENTERY AND PERFORATION OF SMALL INTESTINE (Card Specimen).*

By T. N. Kelynack, M.B.

The small intestine, 26 inches above the ileo-cæcal valve is torn away from its mesenteric attachment for a distance of 7½ inches, and is perforated at its central part.

---

* Detailed Clinical Report. Manchester Royal Infirmary Clinical Notes, Dr. Steell, Vol., 1891. Report of Autopsy. P.M. Reports—Medical, Vol. 1889, p. 698.

The specimen was obtained from the body of a boy, aged 10, who was run over by an omnibus. The pelvis was fractured through the horizontal ramus, immediately to the left of the symphysis pubis, the sharp pointed end of the inner fragment projecting backward. The intestine had apparently been impaled on this spicular process, while the remainder of the coils had been forcibly pressed upwards by the passage of the wheel of the vehicle across the lower part of the abdomen.

XLVIII.—*INTRA-THORACIC ANEURISM AND ACUTE PERICARDITIS (Card Specimen).*

By T. N. Kelynack, M.B.

Specimen from a man, æt. 45. Just above the reflection of the pericardium on the aorta there is an irregularly triangular aperture on the anterior part of the aorta opening into a large aneurismal cavity of sufficient size to hold the closed fist. The edges of the aortic aperture are smooth, rounded, thick, and free from any roughening. The aorta is very atheromatous. The aneurismal sac has somewhat thin walls, especially in front, where it comes in contact with the sternum. The sac is lined by layers of organising clot.

The pericardium is the seat of a recent acute pericarditis. The deposit of fibrin is in thick ipecacuanha-like ridges. Mixed with the fibrin is a quantity of sanguineous fluid, but there is no apparent aperture of rupture of the aneurism into the pericardium.*

The patient was under the care of Dr. Steell, through whose kindness I am enabled to show this specimen.

The specimen is preserved in the Pathological Museum of the Owens College.

XLIX.—*TUBERCULAR ULCERATION OF BOWEL, AND CASEATING MESENTERIC GLANDS (Card Specimen).*

By W. Lauder, M.D.

S. B., ætat. four years, admitted to Manchester Southern Hospital on January 20th, 1892. The only history which could be obtained was that five weeks previous to admission patient had a severe attack of diarrhœa,

---

* Manchester Royal Infirmary Post-mortem Reports—Medical, Vol., 1891, p. 347.

which lasted a week, and was followed by swelling of the abdomen. A child in the same family had previously undergone surgical treatment at the hospital for scrofulous disease of glands of the neck.

On admission there was found to be great distension of the abdomen the superficial veins of which were dilated. Owing to the distension, and the great pain produced by palpation, no enlarged glands could be distinctly felt. The body was much emaciated, and the child very anæmic. The feet and legs were œdematous. Slight dulness existed over the right base, but the breath sounds, although harsh, were otherwise normal. Cardiac sounds healthy. Urine normal. From the time of admission until her death, which occurred on February 9th, diarrhœa was constant, the bowels being moved from 5 to 13 times in the 24 hours, the motions being liquid, dark brown, and offensive. Temperature varied from 100° to 102° F.

At the post-mortem examination no changes of any importance were found except in the abdomen. In this cavity there was some matting together of the coils of intestine, and large masses of enlarged and caseating mesenteric and retro-peritoneal glands were found. The mucous membrane of both small and large intestine was the seat of extensive tubercular ulceration. The specimen exhibited showed a large mass of caseating mesenteric glands, along with a portion of ileum, in which several ulcers could be seen.

L.—*ADHERENT PLEURA WITH SECONDARY TUBERCULOSIS IN THE NEW-FORMED TISSUE* (*Card Specimen*).

By T. C. Railton, M.D., M.R.C.P.

The sections were from a case of adherent pleura. A girl, two years old, was admitted into the Manchester Clinical Hospital on March 16th, 1891, and died on March 22nd. On admission the right lung was almost absolutely dull over the whole of the back, axillary region and lower part of the front, with tubular breathing and some mucous râles over the dull part, and high-pitched note under the clavicle. A needle was inserted without result. The left lung appeared normal. The child was apathetic, and the temperature subnormal.

A history was obtained of cough and wasting during the previous twelve months. There was no variation in the symptoms until the day before the child died, when the temperature began to rise, and in the course of 24 hours reached 104°.

At the post-mortem examination no evidence of tuberculosis was observed except in the right pleura, which was immensely thickened and almost universally adherent. In the new fibrous tissue, which was formed between the pleural layers, were seen under the microscope, groups of leucocytes and considerable numbers of giant-cells. Giant-cells were also observed in the thickened septa extending into the lung. The lung tissue itself was compressed, but no definite appearance of tubercle was to be seen in any of the sections examined.

LI.—*SOLITARY KIDNEY (Card Specimen).*

By F. H. Westmacott.

Annie H., aged 3 years, admitted to Children's Hospital, Pendlebury, January 17th, 1892, with diphtheria. She died a few days after admission. There was a large amount of albumen in the urine—suppression of urine for 12 hours before death—which was due to uræmia. There was a solitary kidney on the left side with single ureter, artery, and vein. It was longer than usual and weighed nearly four ounces. On the right side of the body no trace of kidney, suprarenal capsule, or renal vessels could be found, nor was there any opening into the bladder on that side.

LII.—*KIDNEY WITH DOUBLE PELVIS AND URETER (Card Specimen—With Illustrations).*

By F. H. Westmacott.

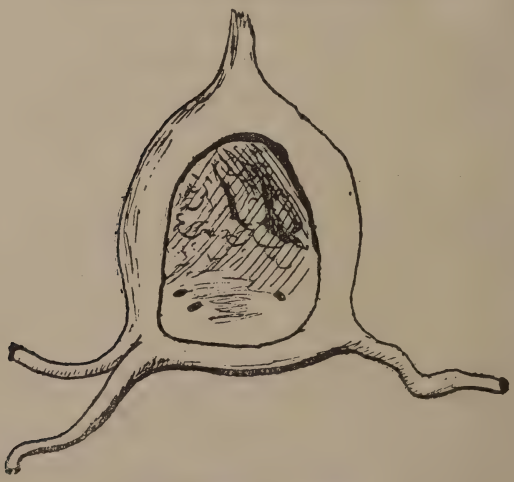
Agnes K., admitted to Children's Hospital, Pendlebury, with cerebellar tumour.

Post-mortem March 4th, 1892.—The left kidney had two ureters, each originating in a separate pelvis—one from the upper, the other from the lower part of the organ, and opening by separate orifices into the bladder on the left side of the base, as indicated in the accompanying drawings.

The size of the left kidney was rather larger than that of the right. From the lower part arose a ureter with a small pelvis, which was quite distinct from the second pelvis arising from the upper part of the hilus. The pelves were of equal size. There was only one renal artery on each side. The two ureters proceeded separately to within one inch of the

bladder, from which point they were enclosed in a common sheath. They did not communicate in any part of their course, each ureter piercing the bladder wall independently.

Left kidney with double pelvis and double ureter.



Bladder opened from behind.

This condition of double and complete ureters is apparently due to two protrusions from the posterior end of the Wolffian duct, instead of one, growing forwards towards the Wolffian bodies, and not to a splitting of the offshoot into two parts, which may account for those cases where the ureters become fused in the lower part of their course and open into the bladder by a single orifice.

SEVENTH MEETING, APRIL 13TH, 1892.

LIII.—*BI-MUCOUS FISTULA.*

By Julius Dreschfeld, M.D., F.R.C.P.

The patient from whom the specimen was obtained was a man, æt. 34, who had complained for some time of abdominal pain, and, on examination, a small movable tumour had been felt within the peritoneal cavity, midway between the umbilicus and ensiform cartilage. After some months the tumour became adherent to the abdominal wall, and an abscess formed, which at first discharged only pus, but some weeks later fæcal matter. From the varying character of the discharge, it was concluded that a portion of the small, as well as of the large, intestine had opened into the fæcal abscess. The patient died of exhaustion, and at the post-mortem it was found that the primary tumour was a colloid cancer of the transverse colon, which had infiltrated the neighbouring parts, had become adherent to the abdominal wall, and had formed a large abscess-like cavity with the walls, composed of fungating tumour masses. Into this cavity, opened the transverse colon, a loop of small intestine, and also the lower end of the stomach, into the walls of which the tumour had penetrated. Dr. Dreschfeld spoke of bi-mucous fistulæ generally, which he divided into two groups: (1) The direct bi-mucous fistula, where the stomach or some part of the intestine communicate directly with another portion of the intestines. Cases of this class have been described in this country, especially by Murchinson. Some cases were also recorded by Dr. Dreschfeld in the *Medical Chronicle.** (2) The indirect or intermediate bi-mucous fistula, where the communication takes place through some intervening mass, such as a tumour, or an abscess, or some other form of inflammatory product. The indirect bi-mucous fistulæ often lead to the formation of an external fæcal fistula; they occur most frequently in the tuberculous affection of the intestines in children, and in colloid cancer of the large intestines (cœcum, colon) in adults.

LIV.—*THE REFLEXES IN SPINAL INJURIES.*

By William Thorburn, B.S., F.R.C.S.

In the Medico-Chirurgical Transactions for 1890 (Vol. LXXIII., p. 151), there appeared a paper by Dr. Charlton Bastian which has aroused much interest and created considerable discussion. Although

---

* *Medical Chronicle*, Vol. VI., 1887, p. 89.

the views there set forth upon "the symptomatology of total transverse lesions of the spinal cord, with special reference to the condition of the various reflexes," had been previously enunciated by Dr. Bastian, they had apparently attracted but little attention, and they were certainly unknown to the present writer, as probably also to many others. The generally accepted view was that in total transverse lesions of the cervical or dorsal region of the cord the superficial and deep reflexes localised below the level of the lesion were at first abolished, but that they subsequently returned—generally in an exaggerated form. That such is the effect of similar injuries artificially produced in animals is well known, and the same condition was supposed (and thought to be observed) to exist in the human subject. This view was so firmly impressed upon my mind that, although I had as early as 1887 reported some striking "exceptions," I felt obliged to try to explain these away as errors of observation or otherwise. Dr. Bastian's paper presented the whole matter (to me at any rate) in a new light, although I was somewhat slow to accept his views, which were opposed to previous convictions. In order to satisfy myself I have now reviewed 29 personal observations of injuries to the cervical and dorsal regions, and the results may be of interest, as they not only confirm, but also, I believe, somewhat extend Dr. Bastian's conclusions.

These conclusions, briefly stated, are that in *total* transverse lesions of the cord both the superficial and the deep reflexes are permanently and entirely abolished; that it is only in *partial* lesions that we find retention or exaggeration of these reflexes; and that the abolition of the reflexes is a result of isolation of the spinal centres from their cerebellar connections. The latter proposition is mainly theoretical, and I do not propose to discuss it here, but the two former are statements of fact, which should be capable of direct verification or denial.

Nearly all the cases to which reference will be made have been already published in my "Contributions to the Surgery of the Spinal Cord," and as it would require much space to repeat all the details of each, they are tabulated on the accompanying sheet, with a reference number (in the second column) to that book. These cases were originally studied without any special regard to the subject with which we are now concerned, and the notes are very imperfect on many important points, an evil which has this compensation, that no previous conviction was present to possibly mar the accuracy of such observations as were made. Upon one point especially are the notes deficient—viz., that varieties of sensation were not tested, and that all deficiencies are

TWENTY-NINE CASES OF REFLEXES IN SPINAL INJURIES.

No.	Ref.	Duration of Life.	Date of Observation.	Paralysis.	Anæsthesia.	Superficial Reflexes.	Deep Reflexes.	Bladder.	Rectum.	Remarks.
1	1	Few hours.	Early.	Complete.	Complete.	....	....	Retention of urine.	....	....
2	2	One day.	Early.	Complete.	Complete.	....	....	Retention of urine.	....	....
3	3	25 days.	Frequent.	Complete, and extending upwards.	Complete, and extending upwards.	Absent until death.	Absent until death.	Retention until death.	Retention. Bowels required enema or castor oil until death.	....
4	4	36 hours.	Early.	Complete.	Complete.	....	....	Retention until death.	"Sphincter ani paralysed."	....
5	5	40 hours.	Early.	Complete.	Complete.	Absent.	Absent.	Retention until death.	....	....
6	6	Few hours.	Early.	Complete.	Complete.	....	....	Retention until death.	....	....
7	7	Few hours.	Early.	Complete.	....	....	....	Retention until death.	....	....
8	8	7 days.	4th day and later.	Complete.	Complete.	Absent until death.	Absent until death.	Retention until death.	....	....
9	9	2 days.	2nd day.	Complete.	Complete.	Absent.	Absent.	Retention until death.	....	....
10	12	10 days.	Frequent.	Complete.	Complete.	Absent until death.	Absent until death.	Retention until death.	....	....
11	13	40 hours.	24 hours.	Complete.	Complete (?). [Patient had been very drunk.]	Plantar very lively, others absent.	Absent.	Retention until death.	Retention until death.	....
12	14	31 days.	Frequent to 29th day.	Complete.	Complete.	....	....	Retention until death.	....	....
13	23	Many months.	Early.	Complete.	Complete.	....	....	Retention.	....	....
			Few days.	*Idem.*	*Idem* (?). Patient demented.	Plantar and cremasteric present; abdominal and epigastric absent.	Absent.	*Idem.*	....	....
			3 weeks.	*Idem.*	*Idem.*	Plantar exaggerated, cremasteric distinct; others absent.	Absent.	*Idem.*	....	....
			5 months.	*Idem.* (No contractures.)	*Idem.*	....	Absent.	*Idem.* [The notes state that the "condition" of the bladder improved; but this refers to cystitis, not to expulsion.]	....	....
14	24	6 days.	Early.	Complete.	Complete.	....	....	Retention.	Retention.	....
15	27	Many months.	3rd day.	Complete.	Complete.	Absent.	Absent.	Retention as long as under observation; after a few weeks overflow would come on in two hours after catheterisation; capacity of bladder again increased as cystitis subsided; occasional gushes of urine, but distention of bladder could be felt by patient.	Retention.	Injury opposite tenth dorsal vertebra.
			2 months.	*Idem.*	*Idem.*	*Idem.*	*Idem.*		....	....
			3½ months.	*Idem.*	*Idem.*	*Idem.*	*Idem.*		....	....
16	26	Unknown.	9 months.	Complete. (Tonic spasm.)	Complete.	Plantar and cremasteric absent.	Knee-jerks well marked; limbs too rigid to yield ancle clonus.	Retention with overflow; occasional spasm of the bladder on passing catheter.	Unconscious and involuntary defæcation.	Injury opposite ninth dorsal vertebra.
17	..	7 days.	?	Complete.	Complete.	....	....	Retention until death.	Paralysis of rectum.	These three cases were reported to me and not personally observed.
18	..	3 days.	Frequent.	Complete.	Complete.	....	....	Retention until death.	Involuntary defæcation.	
19	..	Few hours.	Early.	Complete.	....	....	....	Retention until death.	....	
20	18	Recovered.	Early.	Slight.	Slight.	Plantar exaggerated.	Knee-jerks exaggerated.	Normal.	Normal.	....
21	21	?	5 weeks.	Partial.	*Nil.*	Normal.	Normal.	"Incontinence of urine."	"Incontinence of fæces."	....
			5 months.	*Idem.*	*Idem.*	....	Knee-jerks exaggerated; ankle clonus.	Normal.	Normal.	....
22	17	Recovered.	Early.	Partial in arms only.	*Nil* (?).	....	....	Normal.	Normal.	....
			9 weeks.	Very slight.	*Nil.*	Absent.	Knee-jerks exaggerated.	*Idem.*	*Idem.*	....

TWENTY-NINE CASES OF REFLEXES IN SPINAL INJURIES.—*Continued.*

No.	Ref.	Duration of Life.	Date of Observation.	Paralysis.	Anæsthesia.	Superficial Reflexes.	Deep Reflexes.	Bladder.	Rectum.	Remarks.
23	15	3 years.	Early.	Incomplete in all limbs.	Incomplete.	Cremasteric absent.	Knee-jerks exaggerated.	Retention.	....	....
			3rd day.	Improving.	Improving.	....	Less active knee-jerk.	Catheter not required after second day, but some straining on micturition for months.	....	....
			4th day.	*Idem.*	*Idem.*	....	Knee-jerks normal.	....	....	....
			11th day.	*Idem.*	*Idem.*	....	Knee-jerks absent.	....	....	....
			6 months.	Great improvement.	Great improvement.	....	Knee-jerks exaggerated permanently.	....	....	....
24	10	29 days.	1st day.	Complete a few minutes after accident.	Nowhere quite complete.	Absent.	Absent.	Retention.	Retention.	....
			2nd day.	Extending.	Extending: afterwards diminished and again extended; never quite complete.	*Idem.*	*Idem.*	*Idem.*	....	....
			15th day.	....	....	....	Distinct knee-jerk on right side. Slight on left. Passage of catheter caused reflex contraction of sartorii.	....	....	....
25	20	Recovered.	Early.	Partial.	Complete (?).	....	....	Normal.	Normal.	....
			2 months.	Slight.	Very slight.	....	Ankle clonus; exaggeration of patellar, radial and triceps reflexes.	*Idem.*	*Idem.*	....
			5 months.	*Nil.*	*Nil.*	....	No ankle clonus or triceps reaction; patellar and radial less active.	*Idem.*	*Idem.*	....
26	19	Recovered.	Early.	Complete for a few hours only.	Partial.	Normal.	Normal.	Retention of urine.	Retention of fæces.	....
			4th day.	Improved.	Improved.	*Idem.*	*Idem.*	Normal.	Normal.	....
			11th day.	Improved.	Improved.	....	Knee-jerks exaggerated	*Idem.*	*Idem.*	....
			6 weeks.	Improved.	Improved.	Absent. Later return of right plantar and both abdominal reflexes only.	Knee-jerks exaggerated and ankle clonus.	*Idem.*	*Idem.*	....
27	11	64 days.	Early.	Nearly but not quite complete.	Not quite complete.	Plantar exaggerated; cremasteric and abdominal absent.	Knee-jerks exaggerated	Involuntary micturition; bladder empty.	....	....
			4th day.	*Idem.*	Improved.	Plantar normal.	*Idem.*	Urine voided unconsciously without distending bladder.	....	....
			7th day.	*Idem.*	*Idem.*	All absent.	Right knee-jerk absent, left very feeble.	....	....	....
			11th day.	Increasing.	Diminishing.	....	Both knee-jerks well marked.	....	....	....
			1 month.	*Idem.* Severe cramps.	*Idem.*	....	Knee-jerks slight.	....	....	....
			5 weeks.	Strong tonic spasm.	Much pain.	All absent.	All absent.	....	....	....
28	22	More than a year.	Early.	Complete.	Complete.	Absent.	Absent.	Retention of urine.	Retention of fæces.	....
			8th day,	*Idem.*	*Idem.*	*Idem.*	*Idem.*	*Idem.*	Daily motion hereafter.	....
			15th day.	*Idem.*	Subjective sensations and pain in feet; consciousness of bladder distention.	....	....	Involuntary micturition when bladder filled.	....	....
			1 month.	*Idem.*	*Idem.*	All absent.	Feeble right knee-jerk.	....	....	....
			1 year.	*Idem.*	*Idem.*	*Idem.*	Absent.	Reflex discharges,	Daily evacuation.	....
29	16	3 days.	1st day.	Complete.	Partial.	Plantar "almost absent."	....	Retention of urine.	Retention of fæces.	....
			2nd day.	*Idem.*	No "anæsthesia."	All absent.	All absent.	Normal.	*Idem.*	....

described only under the general term *anæsthesia*, the observations having been limited to tactile sense, to the exclusion of pain, tempera ture, and other forms of sensation. All the cases are injuries, which afford the best material for the study of the subject; all except two, to which reference will be made hereafter, were situated not lower than the level of the mid-dorsal region; and in none was there any evidence, either before or after death, that pathological changes had occurred in the lumbar region. Although such extension of the lesion cannot, in the majority of the cases, be disproved, yet it is fair to assume that among so many this possible source of fallacy may be neglected.

The material divides itself into two groups, those cases in which the lesion was complete, and those in which it was partial only. In the first group we have nineteen, and in the second ten examples. The lesion is supposed to have been complete when paralysis and anæsthesia were absolute below its level from the time of its infliction to the end of life, and in fifteen of the cases, in which there were post-mortem examinations, the appearances corresponded with this diagnosis. On the other hand, the lesion is called incomplete in those cases in which there was at any period some sensation or some motor power below the level of the injury. Here we have autopsies in three cases which also confirm the diagnoses.

Of the complete lesions, nineteen in number, I have records of the condition of the superficial and deep reflexes in nine only. Of these nine, eight (3, 5, 8, 9, 10, 11, 13, and 15), were observed from the commencement. In all of these the deep reflexes were absent from beginning to end. The superficial reflexes were also absent throughout, except in two instances. In one of these (11) the plantar reflex was alone present, and was exaggerated, but the patient only survived the accident by forty hours, and was very drunk on admission to hospital, so that there may remain some doubt as to the completeness of the anæsthesia. The other exceptional case was under observation for some months (Case 13); after a few days the plantar and cremasteric reflexes were present, the abdominal and epigastric being lost, and the same condition still obtained at the end of three months; here also, however, there is some doubt as to the completeness of the anæsthesia, as the man had sustained a fracture of the skull, and was not only deaf but partially demented, thus rendering examination very difficult. Hence, then, in eight cases of apparently complete lesion under observation from an early period, the deep reflexes were absent throughout, as were also the superficial reflexes, with the exceptions named.

We must next consider the duration of this abeyance. The early loss of the reflexes might be attributed to shock, but such shock must in most of the cases have passed away long before death. The date of the last observation in each case was about forty hours (5 and 11), two days (9), four days (8), ten days (10), twenty-five days (3), three and a half months (15), and five months (13). The evidence of these cases then most strongly confirms the proposition that in complete transverse lesions the reflexes are *permanently* abolished. The two possible exceptions have been referred to, but although they are capable of explanation as errors of observation, they are remarkable in association with Mr. Bowlby's cases. The latter surgeon (*Med. Chir. Trans.*, 1890, p. 313), making an analysis similar to that here given, found that in complete lesions "the superficial reflexes are also generally lost immediately after the accident, although *this is not invariably the case*, and they, *unlike the deep reflexes*, may in time return." [Italics my own.] In all of Mr. Bowlby's cases, as well as in one of my own (11), the "plantar reflex" was, however, the only one retained, and this exception is also mentioned by Dr. Bastian, who says (*loc. cit.* p. 154), "when the soles of the feet are strongly tickled there may be very slight movements of the toes," and who regards the phenomenon, not as a reflex, but as an idio-muscular contraction (*loc. cit.* pp. 167, 176, etc.). If we accept this explanation, we have then, so far, but one *apparent* exception to Dr. Bastian's proposition, viz., my case (13), in which the cremasteric reflex was retained in a man whose mental condition rendered the observation of complete anæsthesia difficult and doubtful.

We have, however, one other case of complete paralysis and anæsthesia (16) which differs from all the above in that the man did not come under observation for nine months after the accident. Here the injury probably affected the ninth and tenth dorsal vertebræ; "the lower limbs were completely paralysed" and rigid; anæsthesia was absolute below the level of the last dorsal nerve; the plantar and cremasteric reflexes were lost, but the knee-jerks were retained. I have, however, considerable doubt as to the diagnosis in this case, as all the muscles of the lower limbs, except those in front of the left thigh, failed to react to the faradic current, a condition which is not consistent with a simple transverse lesion of the cord. At least the nature of the case is too uncertain to allow the exception to outweigh in the slightest degree the evidence supplied by the majority.

Looking, then, at these cases, taken collectively, and recognising the doubtful nature of the apparent exceptions, we must conclude

that the first proposition holds good, viz., that in total transverse lesions the reflexes below the lesion are abolished and remain permanently in abeyance. The duration of many of our cases was too long for us to attribute this loss to shock, and it is impossible to suppose that in all these cases (the majority being cervical injuries) the lumbar centres were directly involved.

We may now turn to the cases of incomplete lesion—ten in number. Some of these are easy of interpretation. In Cases 20, 21, and 26, the injury was a comparatively slight one; in Case 20 the patient had, on admission, exaggeration of the knee-jerks and plantar reflexes, which shortly returned to the normal condition. In 21 the superficial and deep reflexes were normal when first observed five weeks after the accident, but two months later the patellar reaction was exaggerated, and ankle clonus was present. In Case 26 paralysis was, or appeared to be, complete for a few hours only; anæsthesia was very slight and both these symptoms improved greatly; on admission, "the reflexes were normal;" on the eleventh day the knee-jerk was exaggerated; at the end of six weeks this exaggeration was accompanied by ankle clonus, but no superficial reflexes were obtainable; somewhat later the right abdominal and both plantar reflexes returned. To the remaining cases we must refer in greater detail.

In Case 23 the injury was a unilateral dislocation of a cervical vertebra. When the patient was admitted neither paralysis nor anæsthesia was quite complete below the lesion, although very little power or sensation remained; the knee-jerks were distinctly exaggerated. Improvement in motor and sensory power were continuous, and the man died three years later from another affection. On the third day the exaggeration of the knee-jerks was less marked; on the fourth they appeared to be normal; on the eleventh they could not be detected, but they shortly returned and remained in an exaggerated form throughout life. The only note as to the superficial reflexes is that the cremasteric was absent on admission.

In another case of very severe cervical injury (27) the patient had "slight power of moving his lower limbs," and anæsthesia only extended as high as the level of the sixth rib; on admission the knee-jerks and plantar reflexes were exaggerated, the cremasteric and abdominal being absent. The man lived for five weeks, during which time the paralysis became more marked and finally absolute. Anæsthesia improved for some four weeks, but great pain then ensued, and we could not be sure whether any

objective sensibility remained. On the fourth day the knee-jerks were still exaggerated, the plantar reflexes normal; on the seventh the right knee-jerk was very slight, the left could not be obtained, and there were no superficial reflexes now or hereafter; on the eleventh day the knee-jerks were again well defined; at the end of a month they were slight, and after five weeks they had disappeared.

These two cases throw much light on the condition of the knee-jerk; in both the lesion was very severe but not quite complete; shock was doubtless as great as in complete lesions, and yet the patellar reflex was present, and indeed increased. In both cases this reflex disappeared for a short time, at about the end of a week, when we may reasonably suppose the inflammatory reaction in the cord, with its necessary obstruction to the passage of impulses, to have been at its height. Shortly afterwards the knee-jerks return, and then the course of the cases begins to differ. In the first, the paralysis and anæsthesia gradually improve, and the reflex becomes and remains exaggerated; in the second, on the other hand, the motor and sensory symptoms get worse, and the knee-jerks ultimately vanish. The natural inference appears to be that the existence of a knee-jerk requires some spinal conducting tracts, and that it is only found when paralysis or anæsthesia, or both, are not quite complete. The same conclusion is borne out by the following cases.

A man (Case 24) sustained a fracture-dislocation of the fifth cervical vertebra; from the fact that paralysis, etc., only came on about ten minutes after the accident, and from the autopsy, it would appear that symptoms were at least partially due to hæmorrhage outside the cord, and not to destruction of its substance. On admission, paralysis was complete and anæsthesia nearly so, all superficial and deep reflexes being absent. The paralysis never improved, but extended upwards until the patient died, on the 29th day; the degree of the anæsthesia varied a little, but it was never absolute. On the fifteenth day there was a distinct knee-jerk on the right side, and a slight one on the left, and on several occasions the passage of a catheter, although unfelt, caused (reflex) contractions of the sartorii. Beyond these statements the notes give us no information.

Again a woman (Case 28) sustained a fracture of the third dorsal vertebra in April, 1889, and is, I believe, still living. On admission she had complete paralysis and anæsthesia below the level of the lesion, with entire loss of the reflexes. This condition remained unaltered for about a fortnight, but about the fifteenth day she commenced to have subjective

sensations in the feet, and shortly afterwards she began to be conscious when her bladder was distended. Unfortunately, the reflexes were not then examined, but at the end of a month, these symptoms still persisting unaltered, she had a feeble knee-jerk on the right side only, and the superficial reflexes remained absent. The patient was sent home a month or two later in this condition. A year after the accident, when I saw her again, she had absolute paraplegia and paranæsthesia, the limbs being much wasted; occasionally she had subjective sense of formication in the feet; the rectum generally emptied itself daily, and the bladder did so from time to time, but she had absolutely no consciousness of the condition of these viscera. The knee-jerks were entirely absent, and the only reflex obtainable was a slight "plantar reflex" on the left side. Here then we have a complete lesion, so far as is indicated by paralysis and anæsthesia. After a few weeks sufficient improvement occurs for the patient to become aware when the bladder is distended, and coincidently we find a knee-jerk on one side. Later on this sensation is again lost, and the reflex is absent a year after the accident.

In the two following cases the first examination was made so long after the accident that they are of but little significance. A patient (22) with slight hæmorrhage in the mid-cervical region, examined at the end of nine weeks, presented a little paralysis of the arms only, no anæsthesia, exaggeration of the knee-jerks, and no superficial reflexes. Another case (25), also with cervical hæmatomyelia, had, two months after his accident, slight loss of power and very slight anæsthesia, with exaggeration of the radial, triceps and patellar reflexes, and ankle clonus. Three months later the motor and sensory symptoms had disappeared, and these reflexes were less lively. We have no note as to the superficial reactions. The last case of partial lesion (29) presents important peculiarities, and will be again referred to immediately.

Looking, now, at these cases collectively, we may say—(1) That shock is not the cause of early loss of reflexes in spinal injuries, as such shock is practically just as great in cases in which these are retained as in those in which they are lost. (2) Where the lesion causes complete paralysis and anæsthesia the deep reflexes are always lost. (3) When motor or sensory power (or both) return, in even a slight degree, these reflexes also return. (4) When no such recovery occurs, the deep reflexes remain absent for periods of practically indefinite duration. (5) When the lesion does not cause complete paralysis or anæsthesia, the deep reflexes remain in either a normal or an exaggerated form. (6) But if the motor and sensory symptoms afterwards become complete, such

reflexes disappear. (7) The superficial reflexes, however, do not conform absolutely to these rules. In nearly all cases, both of complete and partial lesions, these disappear and remain absent, the "plantar reflex" only existing. The latter is obtained in many cases of complete and partial lesions.

Hence, as regards the deep reflexes, these cases bear out absolutely Dr. Bastian's statements. As regards the superficial reflexes, there is probably—as already indicated by Mr. Bowlby—something further to be explained.

In conclusion, I have to refer to my last case of partial lesion—the only exception to the above rules. In this case (29) a man was admitted to hospital with symptoms of cervical hæmatomyelia. He had absolute paralysis below the level of the cervical nerves, but the legs were only partially anæsthetic, and the sensation improved on passing up the body to the level of the umbilicus, where it became apparently normal. The plantar reflexes were "almost absent;" the knee-jerk was not tested. On the following day the paralysis was unaltered, but the "anæsthesia" had disappeared; the superficial and deep reflexes were everywhere absent. The man died on the third day, and at the autopsy there was found a hæmorrhage into the grey matter only of the spinal cord at the cervico-dorsal junction; the white matter did not appear to have undergone any destruction. Thus, then, we have, contrary to our other observations, retained sensation accompanied by loss of reflexes. The case is very fully discussed by Dr. Bastian (*loc. cit.*, p. 214), who suggests that although there was no anæsthesia, there was—owing to the destruction of the grey matter of the cord—probably analgesia, and who holds that "analgesia is the kind of defective sensibility which is most potential in bringing about a loss or diminution of the reflexes." It is by no means improbable that the patient may have presented analgesia, because here, as in the other cases, the varieties of sensation were not tested; but further observations will be required before this ingenious explanation can be unhesitatingly accepted. For our present purpose we may, however, safely say that this exceptional case is not to be regarded as invalidating the general conclusions above stated.

Others besides myself have recently reviewed Dr. Bastian's conclusions, and have found them to accord with their own experience. Mr. Bowlby's paper has been already referred to. At the meeting at which Dr. Bastian's paper was read, Dr. Hughlings Jackson (*Brit. Med. Jour.*, 1890, Vol. I., p. 480) "contended that Dr. Bastian had proved his point." Mr. Bruce Clarke (*St. Thomas' Hosp. Rep.*, 1891) reports a case

of injury to the dorsal cord with complete motor and sensory paralysis, after which the patient lived for ten months, the deep reflexes being absent throughout. And lastly, Dr. Herter (*Jour. of Nerv. and Ment. Dis.*, June, 1891) records five cases of cervical injury confirmatory of the above views.

Such being the evidence, we are, I believe, justified in proceeding upon the assumption that loss of the deep reflexes implies total destruction of the spinal cord. The importance of this conclusion from the point of view of prognosis and of operative treatment is obvious, such loss of the reflexes being necessarily of bad prognosis and a contra-indication to operation. At the present time, however, it is not my intention to emphasise these points, but rather to endeavour to establish further propositions upon the basis of those claimed to be already proved.

Dr. Bastian states (*loc. cit.*, p. 154) that, in complete softening of the cord, "for the first ten days or a fortnight there is often complete retention of urine, but after this time, when the lumbar region of the cord again becomes capable of manifesting to some extent its centric functions, the initial retention gives place to incontinence of urine. This fluid may be discharged at intervals of two or three hours in small quantities, owing to the occurrence of reflex contractions of the bladder whenever it attains a certain degree of fulness. The passage of a catheter, however, in these cases will often show that the bladder is never completely emptied, two to four ounces remaining after the reflex contractions." Again we read (p. 206): "In regard to the organic reflexes, it seems that two of them not unfrequently persist in these cases of total transverse lesion. We have seen, for instance, that in many cases when a certain amount of urine has collected in the bladder, this organ will contract sufficiently to expel its contents in part—the urine then escaping 'in gushes' at intervals of two or three hours."

At first sight these statements appeared to me open to doubt. Not only was there a certain *primâ facie* probability that the visceral reflexes would behave in a similar manner to those in which the voluntary muscles are concerned, but the suggestion that after ten days or a fortnight the lumbar region of the cord again becomes capable of manifesting its centric functions, appeared to be a survival of that very "shock theory" which Dr. Bastian had himself disposed of in the case of the ordinary reflexes. For these reasons I again endeavoured to study the generalisation in the light of my own cases, and, although considerable doubt must be admitted to remain, the balance of evidence appears to

me to favour the view that the visceral reflex obeys the same rule as the deep reflexes, and that Dr. Bastian's cases have upon this point proved misleading.

The subject is a difficult one, as most clinical records are not sufficiently precise to enable us to say what has been the exact condition of the bladder. The term "incontinence of urine," if unqualified, means nothing. It may imply retention with overflow, or it may refer to active but involuntary discharge of urine. Again, the escape of urine "in gushes" does not necessarily imply a reflex contraction of the bladder. Such discharge may be due to contraction of the muscles of the abdominal wall, including the diaphragm, which is, of course, never paralysed in the cases under consideration; or it may result from alterations in the external mechanical pressure on the abdomen, produced in various ways; or even from changes in the position of the patient, or in the intra-abdominal position of his bladder, such as can result from a varying gaseous distension of his intestines; such changes will, of course, alter the height of the column of liquid which the bladder contains, and will thus alter the mechanical expulsive force. Lastly, it is not improbable that idio-muscular contractions may obtain in the case of the bladder; that, just as the pressure of the hand upon the uterus causes a contraction of that organ, which is due to direct stimulation of its muscular fibres, so also the bladder may be caused to contract by the action of external pressure.

Passing now to the consideration of the quoted cases, we find that in the whole of the nineteen complete lesions there was retention of urine lasting until death, or giving place only to the dribbling incontinence, due to overflow from a full bladder. In all of these cases it will be remembered that paralysis and anæsthesia were complete below the level of the lesion, and in all but two the deep reflexes were permanently abolished. To these two reference has already been made. In one (13) the completeness of the anæsthesia was doubtful, but the knee-jerk was certainly retained; here there was retention of urine until death. The second instance of persistent deep reflexes has also been fully discussed (Case 16); the injury was in the lower dorsal region, and the patient was seen only nine months after its infliction. There is here no doubt that the knee-jerk was present, although paralysis and anæsthesia were complete, but, as before stated, the exact nature of the injury is questionable. In this case alone of the complete lesions were there any symptoms which could be attributed to a reflex bladder contraction, but here the passage of a catheter was frequently followed by forcible and

uncontrollable discharge of urine through it. On one occasion this forcible discharge was so strong that while a soft, flexible indiarubber catheter was being passed and was approaching the neck of the bladder, it was suddenly shot out of the urethra, and followed by a stream of urine. There can be no doubt that these discharges were due to contraction of the bladder itself, and not to the abdominal muscles. In spite of this evidence of reflex activity, there was retention, except when an instrument was passed.

In Case 15 urine was occasionally voided "in gushes," but, as the injury affected the level of the tenth dorsal vertebra, and the patient was thus able to feel the abdominal distension produced by filling of his bladder, the probability is that the discharge was caused by his abdominal muscles, and not by the involuntary vesical muscles.

With these exceptions, then, the complete lesions were followed by permanent retention, unaccompanied by any evidence of reflex activity of the bladder, and it is most noteworthy that in the only case in which there appeared to be a vesical reflex—the muscular contraction being even exaggerated in force—the knee-jerks were also present and exaggerated.

We may turn next to the ten cases of partial lesion of the cord. In three (20, 22, and 25) there was at no time any vesical trouble; in all of these the motor and sensory symptoms were comparatively slight, and the knee-jerks were at first exaggerated. In a fourth case (26) retention of urine followed the accident, but gave place to normal micturition before the fourth day; here the knee-jerks were at first normal, and after a few days exaggerated and accompanied by ankle clonus. In Case 23 the knee-jerks were exaggerated immediately after the accident, and remained so for three years, except for a short period; here retention of urine lasted for twenty-four hours only. Again, in Case 27, the deep reflexes were exaggerated from the time of the injury until death, which followed on the sixty-fourth day; this patient had at first spasmodic and unconscious micturition, the bladder being empty; unfortunately the notes give us no information as to the condition of the bladder after the fourth day. The association of exaggeration of the knee-jerk with exaggeration of the bladder reflex is, however, interesting and important. Case 21 presented in the fifth week "incontinence of urine" with retained knee-jerk, and at the fifth month normal micturition with exaggerated deep reflexes; the incontinence here referred to was spasmodic (reflex), and not the result of overflow. In these seven cases, then, the presence of the knee-

jerk was accompanied by a bladder reflex, which was either normal or exaggerated, or it was arrested for a few hours only and then re-established.

In one case only (24) was there permanent retention of urine without permanent absence of the deep reflexes, but here the knee-jerks were only obtained towards the end of life, and the motor and sensory symptoms were almost complete. Conversely, in Case 29 vesical paralysis passed away after a few hours, while the knee-jerks remained absent, but here the early death of the patient (on the third day) leaves us in doubt whether these reflexes also would not soon have returned.

Lastly, we have the case (28) in which the knee-jerks were at first lost, then returned, and ultimately disappeared and remained absent after the lapse of a year. Here there was at first retention of urine accompanying the absence of the knee reflex. About the fifteenth day there was some vague sensation in the bladder, and unconscious but distinctly active or reflex micturition. The knee-jerks were not then tested, but it was shortly afterwards that a feeble return was noticed—on the right side only. A year later there was active and conscious but involuntary micturition, although there were no knee-jerks; paralysis and cutaneous anæsthesia continued to be complete. This, then, is the only case in which it is clear that reflex emptying of the bladder was unaccompanied by the presence of the knee-jerks, or that vesical paralysis was unaccompanied by their absence.

Admitting, therefore, that there are some discrepancies, and that the cases are much less satisfactorily reported than might be wished, it would still appear that there is a general coincidence between the presence or absence of a vesical and a patellar reflex. The same appears to me to be the explanation of Dr. Bastian's own cases, which are here briefly quoted, the dates given being calculated from the day of admission to hospital, or from the first complete examination.

Case 1.—Symptoms of slow onset. On admission, knee-jerks exaggerated; slight ankle clonus; retention of urine for eighteen hours, but not continued. Eighth day: Knee-jerks less exaggerated; no ankle clonus; retention of urine for thirty-four hours. Tenth day: Complete retention of urine continued. Thirteenth day: Knee-jerks very slight; no ankle clonus. Fifteenth day: Retention of urine. Twenty-sixth day: Knee-jerks and ankle clonus lost, retention of urine. Twenty-seventh day: Knee-jerks and ankle clonus absent, "urine began to dribble away about four hours after the cathether was passed." Here we have a

straightforward case of increasing paralysis and anæsthesia, with gradual abolition of reflexes. On admission, the vesical reflex has sustained a temporary paralysis. A week later it disappears, ankle clonus being lost almost simultaneously; the knee-jerks immediately become less marked, and they also are lost on the 26th day. The description of the vesical condition on the 27th day appears to indicate, not that there was any return of the reflex, but that, as is usual in such cases, the capacity of the organ was diminishing.

Case 3.—Symptoms of slow onset. On admission knee-jerks exaggerated, ankle clonus well marked, "always passed his water involuntarily directly he begins to move." The notes of the eighth and ninth days appear to imply that retention of urine had ensued. Tenth day: Knee-jerks and ankle clonus lost; retention of urine. Eleventh day: Reflexes absent, "urine dribbles away at short intervals." Seventeenth day: An hour and twenty-five minutes was required to obtain a glass full of the dribbling urine. Twenty-eighth day: No deep reflexes, "urine flowing away at more frequent intervals." At the autopsy the bladder was found intensely congested. From the description of this patient's condition on admission, it would appear not improbable that the vesical reflex was then—like the knee-jerk and ankle clonus—exaggerated; that is, unless the involuntary micturition was the result of overflow, which would have been diagnosed. Hence, then, all these reflexes disappeared almost simultaneously. The subsequent descriptions do not read like those of active or reflex micturition, but apparently indicate continued paralysis of the detrusor.

Case 4.—Gradual onset of symptoms. Second day: Exaggerated reflexes and retention of urine. Seventh day: Knee-jerk and ankle clonus absent. Fourteenth day: "Urine passes very frequently; it does not drop away but comes in small quantities." Fifteenth day: "Urine is still voided frequently whenever small quantities collect, but the whole is not expelled." Seventeenth day: Slight knee-jerk and ankle clonus on left side. Twenty-first day: Slight knee-jerk on both sides and ankle clonus on right, micturition voluntary. Twenty-second day: Well marked knee-jerk and ankle clonus on both sides. In this case the gradually increasing lesion paralyses the vesical reflex on the second day, and the deep reflexes between the third and seventh. On the fourteenth day, the vesical reflex is recovering, and the progress of this recovery is noted on the fifteenth and twenty-first days. Coincidently we find the deep reflexes recovering on the seventeenth day, and also improving up to the date of the last note. In these three cases, therefore, the vesical

reflex is lost about the same time as the deep reflexes, but this case supplements the two first quoted, in that the recovery of these conditions is also synchronous.

Case 2.—This case alone presents any difficulty. The patient had retention of urine for eight days before and the first two days after admission; "this was succeeded by incontinence." Two days before admission the knee-jerks were present. A week after admission there were no knee-jerks, and ankle clonus was only occasionally obtained; urine was "voided in gushes at frequent intervals." At the end of three months, the deep reflexes being absent, the patient "passes her urine in gushes about every two hours." In this, as in one of my own cases, we have evidence of reflex contraction of the bladder in the absence of the deep reflexes. I am unable to explain these two exceptional cases, but it is perhaps not unworthy of note that both were women, in whom the short urethra presents a comparatively slight obstacle to emptying of the bladder, whether from slight muscular contractions or from mechanical causes, such as have been already referred to.

In the case of the rectum the interpretation of symptoms is even more difficult than in that of the bladder. The fæcal discharges are normally less regular than are those of the urine, and they are governed not only by the condition of the rectal reflex centre, but also by the consistency of the intestinal contents, the activity of peristalsis and the contractile power of the voluntary muscles of the abdominal wall.

The cases here quoted yield little or no information of value. In only seven instances of complete lesion is there any note upon the point, and in these we have information only during the early days of the illness. In three there was retention of fæces; in one the statement is that "the rectum was paralysed," which also no doubt implied retention; in two there was involuntary defæcation; and in one "the sphincter ani was paralysed," the duration of life in the last three cases being one day, three days, and thirty-six hours, respectively. Hence then we find that in complete lesions, at the earliest stages, we may have either retention or discharge of fæces, and the variableness of the symptom in these simpler cases prepares us for results which shall be difficult of interpretation in the more complicated partial lesions.

Among the latter I have notes in six cases. In two (20 and 25) there was no bowel trouble at all; both of these were comparatively slight lesions; in both the bladder was also unaffected; and in both the deep reflexes were

retained and exaggerated. In a third case (26) there was at first retention of fæces and also of urine, but bladder and rectum acted normally before the fourth day; here the deep reflexes were at first normal and afterwards exaggerated. In the fourth case (21) we have no note as to the condition of the rectum until the fifth month, when bladder and rectum were acting normally, and the knee-jerk and ankle clonus were exaggerated. In Case 28 there was retention of fæces for eight days, and thereafter the bowels were moved daily; at first urine was also retained, the bladder beginning to empty itself on the fifteenth day; at an early period the deep reflexes were absent, but subsequently no notes were taken as to their condition until the end of a month, when there was a slight knee-jerk on the right side. This is the case already referred to, in which, at the end of a year, the patient had no knee-jerks, but reflex emptying of the bladder occurred regularly; at this period there was still daily evacuation of the rectum.

The above statements, although of very little value, appear to indicate a general similarity in the condition of the rectal centre and of those for the bladder and deep reflexes.

LV.—*LEIOMYOMA OF THE SKIN.*

By H. G. Brooke, M.B.

The patient, a man, aged 28, was shown. He presented a group of about twenty nodules on the extensor surface of the right forearm. They were movable with the skin, somewhat tough to the touch, and of a slightly dullish red colour. They had been gradually increasing for two or three years, and had latterly begun to cause pain during cold or wet weather, so much so as to cause the patient to wish to have them removed. Microscopic sections showed that they consisted of masses of muscle, precisely resembling arrectores pilorum, intercrossing in all directions. Besnier has described these growths as leiomyomata, in order to distinguish them from the tumours of the striped muscle, such as are found in the dartos tissue. They are also described as multiple dermatomyomata, on account of their invariable occurrence in groups.

LVI.—*CEREBELLAR TUMOUR.*

By Judson S. Bury, M.D., M.R.C.P.

The specimen was from a girl of 21, who died after sixteen months' illness. She had a purulent discharge from the right ear from six to

fifteen years of age; the discharge then ceased, but right deafness persisted. With this exception she had good health till aged 20, when she began to feel "bilious," fell sick, and vomited "green matter," and soon became weak and easily tired. Three months later her legs became weak and unsteady in walking. Six months from the onset she had vertigo, and her sight became dim. Then pain in the head commenced, and was severe and constant. She was admitted to the Manchester Royal Infirmary during the ninth month of her illness, when she had a constant severe headache, chiefly in the occipital region, subject to paroxysmal exacerbations, and associated with tenderness. Well-marked double optic neuritis, with hæmorrhages and white spots near the discs. Slight lateral nystagmus. Right deafness due to middle ear disease. No deafness on left side. No motor or sensory disorder beyond slight unsteadiness in walking; but no decided reeling, and no tendency to fall in any particular direction. Knee-jerks normal, the right knee-jerk perhaps a little more irritable than the left one. There was slight retraction of the head; the muscles at the back of the neck were tense, and the patient could not touch the chest with her chin. During the tenth month the pain in the head abated for about nine days, but returned with great severity. There was also vertigo. Complete blindness of the right eye developed. Speech was slow, and articulation slightly impaired. Irritability of the right facial muscles was observed. The external recti were weak, and slight nystagmus was still observed. Deafness of the left ear was now detected, but was less marked than on the right side. The right knee-jerk was absent, the left somewhat irritable.

During the eleventh month vision was gradually lost in the left eye and patient became completely blind. Nearly absolute left deafness. A temporary and very partial anæsthesia was detected on the right side of the face. In the twelfth month, atrophy of the optic discs developed. The hearing improved on the left side, but it was proved that in addition to deafness on the right side from disease of the middle ear, there was also central deafness. During the next two months hearing continued to improve on the left side. In the fifteenth month paresis of the right facial was observed. The patient became delirious and cyanosed. During the next month the facial paralysis disappeared, but there was some twitching of the right facial muscles. Death was ushered in by coma.

At the autopsy the membranes and brain substance were congested, and there was a slight increase in the cerebro-spinal fluid. The anterior

half of the right hemisphere of the cerebellum was replaced by a soft, red growth, equal in size to a large walnut. It did not project above the level of the cerebellum, but indented the right side of the pons. It presented a blood-red appearance on section. The middle lobe and the left hemisphere were normal. The fourth ventricle was enlarged, and a cyst projected into it from the right side; this cyst, of the size of a small marble, contained thin, yellow fluid, and appeared to project from the inner end of the vascular tumour, beneath the middle lobe into the fourth ventricle. There was old-standing disease of the middle ear on the right side, and the upper surface of the petrous bone was carious.

The other organs were quite normal; a section of the tumour, under the microscope, showed distended blood vessels and large blood spaces; these were separated by masses of new growth composed of round cells, the cells being close together with but little intervening connective tissue.

The case may be supplemented by the following observations:—

(1) During the seven months patient was in the Infirmary (*a*) the temperature was usually subnormal. (*b*) The pulse varied in frequency from day to day, being one day 50, the next day, perhaps, 90 per minute. (*c*) There was no vomiting.

(2) The right knee-jerk, probably unduly irritable, at first was absent, during the last six months of patient's illness.

(3) The right 7th and both 8th cranial nerves were implicated; the affection of the 7th nerve was, however, very transient, while that of the 8th nerve varied much from time to time.

(4) There was unsteadiness in walking; this was an early symptom, and hence, most probably, occurred at a time when the middle lobe was quite free from pressure.

At my request Dr. Kelynack, Pathologist to the Royal Infirmary, has kindly furnished me with a short analysis of the cases recorded in our post-mortem records, which I append:—

AN ANALYSIS OF NINETEEN CASES OF CEREBELLAR TUMOUR, BY T. N. KELYNACK, M.B.

At Dr. Bury's suggestion I have examined the post-mortem records of the Manchester Royal Infirmary, of examinations made on the last 2,238 medical cases. Amongst these there are 19 registered as cerebellar tumour. One of these, although registered as such, appears from the description given to have originated in the neighbourhood. All cases of

cerebellar abscess, and so-called serous cysts are, of course, excluded in this analysis. Of these 19 cases, 15 were males and 4 females. The average age of the males was 21⅓. That of the females was 25.

The more important features of interest may be grouped in the following table :—

Sex.	Number of Cases.	Average Age.	Character of Growth.
(A) Males	7	13½	Tubercular
Females	1	16	„
(B) Males	8	28½	Malignant
Females	3	26	„

Under the head "Malignant," in the above table are grouped sarcomata, cystic sarcomata, gliomata, and those growths where, although the exact name may not be mentioned, the description would seem to warrant their inclusion.

The above figures, although of some little interest, cannot be considered of much statistical value, for it must be remembered that the Infirmary contains no special children's wards, and young subjects, in whom cerebellar tumours are most frequently met with, are most likely to be received into the special hospitals for children.

LVII.—*CASE OF ANGIOMA OF CILIARY BODY.*

By A. Hill Griffith, M.D.

Frances F——, aged 21 (Dr. Glascott), married four years, had one child and one miscarriage. Blind of the left eye 15 months, T + 3, the pupil dilated ad maximum, with pigment encroaching on its anterior surface. Almost total separation of the retina, which was studded, near the ciliary region, with white chalky-looking patches and some hæmorrhages. The retina did not wave about during movements of the eye, probably from being rendered stiff by the gliomatous (?) degeneration it had undergone. A maternal aunt died of cancer of the uterus. The diagnosis of glioma having been apparently justified, the globe was enucleated.

The lower half of the globe measures 23mm. in the transverse, by 24mm. in the sagittal diameter. The angle of the anterior chamber is closed by advance of the root of the iris. There is total separation of the retina, which has become detached from the optic disc, but in front spreads out over the posterior surface of the lens and base of ciliary

body. The folds of the retina seem agglutinated together, forming a round stalk, which runs from behind forwards, and about the middle of this, one finds a light yellow nodule about the size of a pin's head. A quantity of bluish-grey flocculent substance escaped, and was lost on opening the globe, but some of it adheres to the ciliary region. The choroid appears quite normal, and is in position. There is no cupping of the optic disc, and the nerve appears healthy. On clearing away the remaining flocculent substance one came on a circumscribed wedge shaped tumour, of a lightish brown colour, arising from the ciliary region at the nasal side, and projecting into the eye; it measured 5·5mm. in thickness by 9mm. in length, and its minute structure will be described below.

Microscopical sections of different portions of the upper half of the eye give the following results: The pigment layer of the iris is turned over the edge of the pupil, and invests the anterior surface of the iris for some distance. The angle of the anterior chamber is closed by adhesion of the root of the iris to the margin of the cornea, but the canal of Schlemm is quite patent. The substance hanging about the ciliary region, and filling the space between the choroid and detached retina, seems to be composed partly of inflammatory products and partly of changed vitreous. It is certainly not gliomatous.

The ciliary processes are enormously engorged with blood, and blood corpuscles are found in great quantity adherent to the inner surface. On part of the anterior surface of the iris, and all the posterior surface of the same, and the internal aspect of the ciliary body, is found a quantity of fibrinous material, with blood corpuscles, and some large round pigment cells. The optic nerve is atrophic, but shows no appearance of invasion by glioma; the inner surfaces of opposite halves of the retina are in apposition; the rods and cones are wholly absent; several of the other layers can be fairly well made out; but all are much thickened, and show numerous extravasations of blood corpuscles, with clumps of round, single-nucleated cells, which stain well with logwood, and give very much the appearance I have seen in undoubted cases of glioma. The light yellow nodule, which I have mentioned before, is situated in the outer layers of the retina, and bears under the high power some resemblance to a "giant cell," being a large oval body of finely granular appearance, surrounded by a cell-lined network, but it is probably only some coagulated serum filling up a large cavity in the tissues, for the nuclei certainly belong to the adjacent cells, and not to the granular mass itself.

Longitudinal sections of the swelling at the ciliary region show that it is bounded on the outer aspect by the fibres of the ciliary muscle, with which its structure seems continuous, and behind it is joined by the anterior termination of the retina. The tumour consists of a framework like a sponge, the cavities of which are filled with blood corpuscles, and the fibrous meshwork is covered by numerous and distinct nuclei. At the hinder part the spaces are very wide, and quite packed with blood corpuscles, and the septa are very slender, but in the main bulk of the tumour the spongelike structure is very close, and the cavities much more numerous, but smaller, and many of them quite empty.

The view which I have adopted of this case is, that the ciliary growth, which I take to be a non-malignant angioma, was the starting point, and gave rise to all the other changes—the increased tension, the detachment of the retina, and the inflammatory (?) changes in and around the latter.

LVIII.—*CASE OF CHRONIC LOCALISED CHOROIDITIS WITH DEPOSIT OF BONE.*

By A. Hill Griffith, M.D.

Jane W., aged 14 years and 11 months (Dr. Little), had lost the sight of the left eye certainly for six months, and probably it had been failing for about 18 months. At the date of enucleation there was no perception of light, T + 3, cornea hazy, pupil dilated ad max., only a very narrow rim of iris to be seen, covered with pigment on its anterior surface. There was total, or nearly total, separation of the retina, forming a funnel-shaped cavity extending from the disc to the ciliary attachment. The detached retina was thickened and discoloured, and did not wave about; splatches of blood were seen in places. During the few days the case was under observation the haziness of the media increased, and the diagnosis of intra-ocular growth having been arrived at, the eye was removed.

The globe was divided into an upper and a lower half. The sagittal diameter measures 25mm., the transverse 24·5mm. The angle of the anterior chamber is closed by the advance of the root of the iris, otherwise the anterior parts of the eye are normal. The detached retina appears as a rounded cord, running straight forward from the

optic disc. It is evidently much thickened, especially at its posterior attachment, where it forms a pinkish-grey fusiform swelling, whose base is closely adherent to the choroid at the temporal side of the disc.

Longitudinal sections of the optic nerve, with the retina and other parts at the back of the eye, show the following points: The optic nerve is normal, or practically normal; the choroid is normal, except at the temporal side of the disc, where it is much thickened and engorged with blood, and shows embedded in its substance several plates of young bone. Its structure is here quite continuous with the fusiform swelling formed by the detached retina.

In the posterior part of the swelling one can readily enough make out the thickened nerve fibre layers of the opposed halves of the retina, and trace these backwards to the lamina cribrosa, which is distinctly depressed. The other layers of the retina cannot be made out separately, but are all much proliferated, and contain a good number of blood vessels and a moderate amount of pigment, which, being confined to the parts adjacent to the choroid, is evidently derived entirely from the hexagonal pigment cells. My friends, Mr. A. H. Young and Dr. Arthur Robinson, who kindly examined the sections, unhesitatingly agree with me that we have here no new growth, in the usual acceptation of the term, but a localised chronic inflammation of the choroid and retina. Mr. Young also considers I am correct in designating the first case (LVII.) an angioma.

As regards these two cases (LVII. and LVIII.), it is interesting to note that in the second case, relying on the occurrence of amaurosis, detachment of retina, and increased tension, our diagnosis of intra-ocular growth was entirely wrong; and that in the first case, where, from the addition ofthe presence of white chalky-looking patches, and hæmorrhages on the retina, we felt justified in giving the more exact diagnosis of glioma, we were not quite correct.

LIX.—*PLEXIFORM ANGIO-SARCOMA OF THE CEREBELLUM* (*Card Specimen*).

By Sheridan Delépine, M.B.

This tumour was obtained from the body of a female patient, æt. 47. It measured about two inches in diameter, and was growing from the meninges, and pressing upon the left half of the cerebellum, the pons,

and the medulla. The tumour had probably existed at least ten years, for the left vocal cord had been paralysed for as long a time. A sarcomatous polypus was detected in the left ear during the last year of the patient's life. A brother was said to have died of sarcoma situated in the region of the upper-jaw.

LX.—*HEART AND LUNGS FROM A CASE OF ACUTE SEPTIC INFLAMMATION OF SEROUS MEMBRANES* (*Card Specimen*).

By H. R. Hutton, M.B.

James A., aged two years, admitted to Children's Hospital, Pendlebury, March 29th, 1892. Father phthisical. One child died of bronchitis and one of consumption. Patient has always been delicate. Two days before admission the child began to suffer from cough, and was feverish. No vomiting. Has steadily become worse.

On admission, child pale, with anxious weary expression, as if in pain. Respiration short and catching, and chiefly thoracic, 48 per minute, the diaphragm scarcely acting at all. Whole left side of chest evidently very tender. Temperature 102—103°; pulse 200. Left lung in no part resonant; dulness marked over lower two-thirds, with râles and pleuritic friction sounds. Heart sounds healthy. Abdominal tenderness on left side. Liver and spleen apparently normal.

March 30th.—Worse. Pulse, 200; respirations, 56; temperature, about 102°. Taking but little food. Slight diarrhœa.

March 31st.—Much worse. Continuous vomiting. Died at 8 a.m.

Post-mortem Examination.—Thorax—left side: Purulent inflammation of pleura and pleural surface of diaphragm; lymph on both parietal and visceral pleura. No fluid. Lower lobe solid (early grey hepatisation); upper lobe congested. Much mucus in bronchi. Right: 1 ounce of thin pus in pleural cavity, and some flakes of lymph on pleura of lower lobe, and on diaphragm. Upper lobe congested. Lower lobe in a state of early pneumonic consolidation, and in centre of lobe is a small abscess containing thick pus. Heart: Outer surface of pericardium rough and coated with lymph (extending from left pleura). Two ounces of thin pus in pericardial cavity. Pericardium roughened and thick, with yellow lymph over portion covering ventricles. No endocarditis. Muscle-substance rather soft. Mediastinal glands caseating. Abdomen: Flakes of lymph on parietal layer of peritoneum. 1½ ounces of pus in recto-

vesical pouch. Intestines roughened on surface and adherent in places, with lymph between the coils. Stomach normal. Kidneys normal. Liver not enlarged; normal on section; surface rough and adherent to diaphragm. Spleen large and very soft; adherent to diaphragm; surface roughened. Brain congested; otherwise normal. No otitis.

LXI.—*DERMOID CYST OF THE RIGHT OVARY (Card Specimen).*

By T. N. Kelynack, M.B.

This cyst, which is of the size of a Tangerine orange, has a distinct glistening capsular membrane, and contains a soft, putty, sebaceous-like yellowish-white material, in which are very numerous short fine hairs. No teeth or other cutaneous structures are present. The left ovary presents commencing cystic change. The patient, a woman of 36, died from polio-encephalitis, and during life the "dermoid" gave rise to no symptoms.* The specimen is preserved in the Owens College Pathological Museum.

LXII.—*HYDATID CYSTS OF THE LIVER (Card Specimen).*

By T. N. Kelynack, M.B.

The specimen was obtained from an elderly male of 65.† The liver is distinctly enlarged. It was firmly adherent to the diaphragm, and there was much matting of surrounding tissues, particularly along the anterior border of the liver. Projecting from the anterior border and anterior part of the upper surface of the organ, to the left of the gall-bladder, are two yellowish-white prominences of the size of small oranges. They were semi-fluctuant. On opening the one nearest the gall-bladder, it is seen to have the characteristic appearance of hydatid cyst, and contains numerous daughter cysts undergoing gelatinous degenerative change. The other cyst contains clear hydatid fluid, with several whitish small pea-like cysts adherent to its wall.

The specimen is preserved in the Pathological Museum of the Owens College.

---

* "Manchester Royal Infirmary Post-mortem Reports."—Medical Vol., 1891, p. 223.

† Full Report.—"Manchester Royal Infirmary Reports."—Medical Vol., 1891, p. 381.

LXIII.—*CASES OF MECKEL'S DIVERTICULUM (Card Specimens).*

By T. N. Kelynack, M.B.

The following three cases have recently been met with in the Post-Mortem Theatre of the Manchester Royal Infirmary.

Case 1.—Male, æt. 58. Death from suppurative peritonitis resulting from perforation of chronic round ulcer of the duodenum. Meckel's diverticulum present as a small nipple-shaped *cul-de-sac*, situated 40in. above the cæcum.

Case 2.—Male, æt. 34. Death from "stonemason's phthisis." Meckel's diverticulum 5¼in. long; contains no fæces; situated 21in. above ileo-cæcal valve. A fibrous-like cord anchors tip of fundus to parietal peritoneum, just a little behind and below bladder. It would appear as though this cord of attachment had broken away from the umbilicus or abdominal wall, and subsequently contracted fresh adhesion to present site. By this attachment an arch, or rather ring, is formed, through which intestine might readily have become herniated.

Case 3.—Male, æt. 42. Alcoholic subject, death from acute croupous pneumonia. Meckel's diverticulum, 3½in. long, 2in. wide; distended with gas, and containing no fæces; free, no adhesions; situated 40in. above the cæcal valve. These specimens are preserved in the Patholo gical Museum of the Owens College.

LXIV.—*PULMONARY TUBERCULOSIS WITH ACUTE EPIPHYSITIS OF THE HEAD OF THE FEMUR (Card Specimen).*

By A. W. W. Lea, M.B., F.R.C.S.

The specimens were from a boy aged 14. At the post-mortem the head of the femur was lying loose in the joint as a sequestrum. The cartilage was eroded and softened. The neck of the bone was also carious and eroded, and the periosteum was completely removed. The acetabulum was bare and roughened; and its centre was perforated, permitting pus to make its way into the iliac fossa. The superior ramus of the pubis and the ramus of the ischium were also bare, and the periosteum loose. A vertical fracture passed from the centre of the acetabulum upwards through the ramus of the pubis, and downwards through the ramus of the ischium.

The apices of both lungs showed numerous grey tubercules extending into the upper third. The apices also of the lower lobes on each side showed numerous grey tubercles.

The case was one of tubercular epiphysitis of the head of the femur, probably commencing near the epiphysial line, causing detachment of the head and ending in suppuration.

EIGHTH, AND CONCLUDING MEETING, MAY 11TH, 1892.

LXV.—*ACUTE NECROSIS WITHOUT SUPPURATION.*

By Nathan Raw, M.D., B.S.

Elizabeth H. aged 20, servant, was admitted into the Bolton Infirmary on August 1, 1891, under the care of Dr. Patrick.

History.—Two months ago in endeavouring to prevent her mother from falling in an epileptic fit, she fell, and struck her right arm violently against the bedpost. She was able to use it and do her ordinary work afterwards. In a few days the arm became intensely painful and began to swell; the pain was most severe at night.

On Admission.—She is a strumous looking girl, no history of malignancy in family. Her right arm is immensely swollen, shiny and very tense, veins on surface much distended, no pain on ordinary pressure, great pain on deep pressure. The forearm and arm are œdematous, and the line of the axillary vein hard, tense, and painful.

Measurements.	Right.	Left.
Upper arm	14 inches	8½
At elbow	13¾ „	7
Wrist	8½ „	5½

Temperature 103°F. Pulse 120, generally febrile. Diagnosis of acute periostitis and osteitis was made. A probe was passed for three inches through the swollen tissues on the outer side down to the bone, which could easily be felt roughened and necrosed. The swelling seemed to be solid œdema. Permission to operate was persistently refused, and beyond an exploratory incision nothing further could be done. This incision was made on the outer side of the arm and carried down to the bone. The bone was found to be fractured; no pus was found. Two

weeks after admission a secondary (probably) pyæmic abscess formed in the sub-clavicular region, but did not in any way communicate with the arm. She gradually sank and died of exhaustion 16 days after her admission.

Post-Mortem.—The arm was carefully examined; the surface was discoloured; the swelling was found to be nothing more than œdema, which readily broke down under pressure; no evidences of growth or malignancy. The bone was found completely stripped of its periosteum, and was much roughened. New bone was rapidly forming and surrounding the shaft. The epiphyses were quite healthy. Spontaneous fracture had taken place in its upper third. Not a drop of pus was found anywhere in the arm.

This case is of extreme interest on account of its rare occurrence.

Mr. Stanley drew attention to the fact that necrosis might take place without suppuration, and Sir James Paget recorded two cases of what he proposed to term "quiet necrosis." Mr. Morrant Baker recorded a case in which the whole femur perished, and at the time of amputation three months afterwards not a drop of pus could be found. The pathology of the condition is still obscure, but it has been suggested that this form of necrosis, which apparently deviates from the ordinary course, is due to the fact that the death of the bone occurs in chronic osteitis, the shaft of the bone gradually dies, as its sources of blood supply are cut off, partly by inflammatory changes within it, and partly by the formation of new bone in and beneath the periosteum and endosteum. Under these circumstances it might be expected that suppuration could be long delayed.

LXVI.—*TWO SPECIMENS OF ANEURISM OF ARCH OF AORTA, WITHOUT WELL-MARKED SYMPTOMS DURING LIFE.*

By Nathan Raw, M.D., B.S.

W. T., æt. 47, painter. Has had no heavy work. History of syphilis. Nine months ago he first noticed a little cough and difficulty in breathing, up to then he had enjoyed good health. He has had spasmodic attacks of dyspnœa ever since. He was admitted and treated with all the known anti-spasmodics, but they failed to be of any permanent relief. He has a well-marked stridor in the trachea and complains of a difficulty in inspiration, but more especially of expiration, at the level of the sternal notch. He was carefully examined for aneurism, but no definite symp-

toms were present beyond dyspnœa. The vocal cords were healthy and he had no pain or dulness. Stenosis of the trachea diagnosed. He became impatient and went out, where he was kept under observation for six months. He remained in fair health, and with the exception of occasional dyspnœa, followed his work. I was suddenly called to see him, and found him gasping and almost unconscious, and slowly asphyxiating. Tracheotomy was considered, but after a careful examination of the larynx it was decided not to operate. He gradually sank and died. The specimen now exhibited shows a sacculated aneurism of the transverse portion of the aorta, pointing behind and pressing on the trachea, immediately above the bifurcation. The pressure was chiefly lateral and did not affect the œsophagus to any extent. The cartilage of the trachea was ulcerated and almost through. The aneurism was a very small one, about the size of a Tangerine orange, and in this case it was particularly noticed that tracheal "tugging" was most pronounced and expiratory trouble greater than inspiratory.

In the next case the condition was accurately diagnosed and localised. John C., æt. 61, engineer. Has had heavy work. Twelve months ago he was treated for bronchitis and asthma; three months ago had great difficulty in breathing. On admission, on March 10, he has a loud aneurismal cough, stridor, and dyspnœa, no other symptom of aneurism, beyond the fact that less air was found to enter the left lung than the right, suggesting pressure on the left bronchus. Heart sounds showed no valvular disease. Pulses and pupils normal, vocal cords showed paralysis of abductors and adductors and were stationary. He had no pain anywhere The specimen shows again a large sacculated aneurism of the descending portion of the arch, pressing and almost completely obliterating the left bronchus, cartilage eroded. In this case the dyspnæa was not so urgent as the former. The specimens were exhibited to show the great difficulty at times of accurately diagnosing aneurism, and the importance of the symptom of spasmodic dyspnœa.

LXVII.—*A CASE OF EQUINE TUBERCULOSIS.*

By J. B. Wolstenholme, M.R.C.V.S., and T. N. Kelynack, M.B., Ch.B.

Until the last few years tuberculosis affecting the horse has not been clearly recognised, and although undoubtedly much commoner than usually imagined is still sufficiently rare to warrant a brief record of the following case.

Case.—The subject was a draught horse (gelding), eighteen years old. It had been in the service of a large company for twelve or thirteen years, and up to twelve months ago had been strong and robust. It was well fed, comfortably stabled, and its work was not excessive. A year ago it was observed to be falling off somewhat in strength and appearance. This was attributed to its age. Six months later this wasting became much more marked, and the horse was frequently kept from work for several days at a time. Later still, he rested for a fortnight, and was then worked lightly for a few days, and only after a fortnight's duration of acute illness died on March 11th.

The case was seen, in consultation, on the day previous to death. The animal was much wasted and exceedingly feeble; the pulse was 66, small and weak; the temperature was 102·5° F.; the respirations were much quickened; there was distinct fœtor of breath with a slight nasal discharge; and a considerable portion of both lungs appeared dull. It was advised that the animal be destroyed, but death occurred naturally the following day.

Autopsy.—At the post-mortem examination the lungs were found to be almost entirely consolidated, and studded throughout with miliary tubercles. The thoracic and bronchial glands were also much enlarged and caseating. The spleen* was enormously enlarged and the seat of numerous tumour masses, varying in size from an infant's head to that of a small marble. They were round, firm, of a yellowish-white colour, and to the naked eye presented little or no tendency to break down. In fact, they strongly resembled lympho-sarcomatous growths, such as are occasionally met with in man. The mesenteric glands were also much enlarged and caseous. The other abdominal viscera presented no distinct evidence of tuberculous affection.

Microscopic Examination.—The lung showed, most beautifully, the characteristic appearance of miliary tubercle. Giant cells were present in considerable number, and in many instances a tubercular focus contained several. These giant cells, although branched, were not markedly so. On staining with carbol. fuchsin, according to the method of Ziehl-Neelsen, abundant tubercle bacilli were found, both within the giant cells and throughout the surrounding tissue. They appeared slightly smaller than those most frequently seen in human tuberculosis, but presented no unusual characters in their reaction to the staining agents or in their relation to the tubercular areas. The spleen also presented

---

* Preserved in the Pathological Museum of the Owens College.

most characteristic tubercular structure and was crowded with tubercle bacilli. The mesenteric glands showed the usual tubercular appearance of glands undergoing caseation. They contained many tubercle bacilli.

Remarks.—The case presents several features of considerable interest.

(1) Absence of any evidence as to the source of tubercular infection. As far as is known the animal had not been brought into intimate association with any other animals or men known to be tubercular. Moreover, it was an old horse, and had not been fed on milk or food likely to contain tubercular elements.

(2) The seat of invasion must apparently have been the alimentary tract.

(3) The extent and character of the splenic involvement were most striking. It would seem, judging from the already recorded cases, that in the horse a chronic tuberculosis of the spleen, of considerable extent and with but little tendency to break down, is far from unusual. Indeed, it seems most probable that many of the so-called "lympho-adenomatous" or "lympho-sarcomatous" growths of the spleen, formerly described, may have really been of a tubercular nature.

(4) The present case also illustrates the fact, previously observed, that equine pulmonary tuberculosis is commonly secondary, while in adult man it is, of course, most frequently primary.

(5) The tubercle bacilli here, as in most sections of bovine tuberculosis, were somewhat shorter than those usually seen in human sputum, but any such unimportant and natural variation is altogether insufficient to suggest any specific difference.

(6) Extensive caseation, judging from this and previously recorded cases, would seem to be far less marked in the horse than in man.

(7) The subject of the present report was old. In many of the cases recorded such has been the case. Can it be that advancing age renders the equine tissues more susceptible to the attacks of the tubercle bacillus?

(8) This case also clearly indicates the importance of microscopical examination. Only by such means can doubtful cases be made clear. If such be carried out in further cases, particularly where there are doubtful tumour masses in the spleen, it will very probably be found that equine tuberculosis is by no means so rare as we are now inclined to imagine.

LXVIII.—*BOVINE SUPPURATIVE PERICARDITIS.*

By J. B. Wolstenholme, M.R.C.V.S.

Heart and pericardium of a cow with acute suppurative pericarditis, arising from the penetration of a piece of wire, which had passed from one of the stomachs through the diaphragm into the pericardium. Another fragment of wire was found projecting partially through the diaphragm.

These cases are common in veterinary practice; shreds of iron, large needles, and fragments of wire are gathered up during hay-making, and afterwards ingested by the bovine species, for they are often very careless and indifferent in the selection of food.

Among the features of these cases may be noted the remarkable tolerance of the system to the irritation and lesions following. Oxen will live on for weeks in this condition unless, as is usually the case, the animal is killed. The pathological changes are also great. In the present case it was computed that not less than two gallons of purulent fluid escaped from the pericardial sac on puncture.

On March 1st the pulse was 120, very weak; temperature, 103·6°; the normal being about 60, and 102°. There was marked dulness over the region of the heart, and a metallic "tinkling" sound was audible. There was some œdema beneath the jaws and in the pectoral region.

The specimen is preserved in the Pathological Museum of the Owens College.

LXIX.—*ABNORMAL BLADDER IN THE HORSE.*

By J. W. Wolstenholme, M.R.C.V.S.

The specimen is that of the urinary bladder of a male horse presenting two large lateral diverticula. These supernumerary pouches are almost as large as the main or normal portion. The specimen is preserved in the Pathological Museum of the Owens College.

LXX.—*MULTIPLE TUMOURS OF THE BRAIN.*

By G. H. Cooke, M.B.

Case 1.—Tubercular Meningitis. Caseous Nodules in Cortical Motor Area, etc.—Boy, aged 5¾ years, with good family history; had always

enjoyed good health prior to two months ago, when he began with headache (frontal) and vomiting (twice), loss of appetite, and feeling of malaise. Was ill for a few days and then appeared all right, and up to present illness had been attending school. Present attack began with vomiting, which was not exclusively related to food, and late in the same day he became unconscious. Parents had noticed him starting in sleep about two weeks before, but they were not aware of anything else. When first seen he was unconscious, but resisted attempts at movement; eyes were wide open, right external rectus not acting so well as the left one; pupils moderately dilated and react to light; accommodation, of course, could not be obtained. The mouth was being alternately opened and closed, but not drawn to any particular side: no facial paralysis. Head slightly retracted. Arms straightened out; legs flaccid, remain in any position in which they are placed. All reflexes (superficial and deep) are absent; no ankle clonus, no ideo-muscular contraction. Abdomen flaccid, doughy, and diaphragm seems to move very little. Tache cérébrale. Respiration very irregular, occasionally deep sighs occur, but no Cheyne-Stokes. Right apex doubtfully dull, breath sounds normal, and has occasional cough. Heart normal, pulse 98, fairly strong and regular. Temperature 98·8°; cheeks not flushed; hands cold. Keeps uttering shrill cries; bowels constipated.

Two days later—patient still remaining unconscious—the pulse became very fast, uncountable; respiration still irregular and sighing; eyes were dilated, and doubtful reaction to light; no signs of irritation in feet, lay like a log. This condition continued for a couple of days longer, when the temperature suddenly rose, and death took place apparently from respiratory failure. All along there had never been any sign of vomiting, or irritation. Cheyne-Stokes breathing was not present. Duration of illness, about five days.

At the post-mortem there were the ordinary signs of tubercular meningitis, but in addition six caseous nodules in the following situation: Broca's convolutions, lower third ascending frontal and ascending parietal convolutions; they were all on the left hemisphere, the right being free with the exception of a nodule which was placed about the middle of the right marginal convolution. In size they averaged $\frac{3}{4}$in. in diameter, and projected a little on the surface of the brain, the dura mater over them being united to the pia. The lowest ones extended so far as to press on the island of Riel. All the other organs were normal.

Remarks.—It may be well to notice the following points: (1) Very good family history—no phthisis, no syphilis; (2) no recognisable pre-

disposing cause ; (3) short duration of illness ; (4) symptoms not typical of tubercular meningitis, and absence of any such pointing to a growth in the cortex ; (5) absence of aphasia (boy was right handed).

Case 2.—Tumours of the Basal Ganglia.—Patient, a boy, æt. 2 years, had been very healthy up to the present illness, which began about three weeks before. The child, who could run about very well previously, was then observed to stagger (not to any particular side), and the right hand began to twitch at times ; there was no vomiting, no loss of sight, and he could understand what was said to him. On admission, he was well-nourished, ruddy and healthy looking. The arms were distinctly spastic, more so on the right than the left ; tremor also of the right hand, better marked when used ; the left was also affected, but to a less extent. No other abnormalities. A few days after, the right leg became rigid, with increased knee-jerk, but no ankle-clonus. The eyes did not work together, there was no paresis, but a condition not unlike slight nystagmus was present. There was also optic neuritis affecting both eyes. About a week afterwards—that is, five weeks in all from the commencement of the illness—the face showed signs of paralysis, the left side being weak, and affecting the lower muscles of the face ; the eyes were constantly turning to the right, the left eye almost disappearing into the inner canthus, and when he looked forwards there was slight internal strabismus. The legs had now become more spastic and there was a tendency to walk on the toes, but he could only walk while being supported by the hand. He could not stand alone but no staggering was observed. The upper extremities were in much the same condition as before, though the tremor had increased, especially on the right side. There had been no vomiting since admission, and the temperature had fluctuated between 98° F. and 100·4° F. He was taken out of hospital about this time, but returned a week later in a semi-comatose condition, suffering from broncho-pneumonia, and died the same day, the duration of illness in all being about six to seven weeks.

At the post mortem there was found a large caseous mass, infiltrating the whole of the left lenticular nucleus. This pressed on and pushed upwards the internal capsule and extended into the caudate nucleus. A small nodule, limited to the posterior part of the right optic thalamus, and slightly pressing on the posterior part of the posterior limb of the internal capsule, was also present. The remaining brain matter was healthy, and the other organs, except the lungs, normal.

Remarks.—In this case it is interesting to note (1) The absence of any phthisical history. (2) The situation of the caseous masses, which

must have certainly been present—from their size—longer than the symptoms would indicate; probably these would arise when the internal capsule was pressed upon. (3) The facial paresis: this could not have been due to the lesion in the optic thalamus, since it only pressed on the posterior part of the internal capsule, and that very slightly, leaving the knee of the capsule intact.

LXXI.—*MACROSCOPIC AND MICROSCOPIC SECTIONS OF EYES PREPARED BY THE CELLOIDIN METHOD.*

By E. Roberts.

It was my intention only to show some of these specimens prepared by the celloidin method, but, thinking the details of the process may prove of use to some of our members, I have taken the liberty of describing them.

Immediately after enucleation the eye is cleaned by the removal of all fat, tendon, and conjunctiva; it is then placed in Muller's fluid, and allowed to remain there for three weeks. The next process is to freeze and bisect the globe. Dry the eye, and place it in a piece of gutta-percha tissue the inner surface of which has been smeared over with olive oil. Draw the tissue round the eye, tie it loosely with a piece of string, and immerse it in a mixture of ice and salt. When the eye is frozen hard, which takes about 20 or 30 minutes, place it on a piece of cork and cut it in halves with an ordinary table-knife. The section should be made vertically, the knife passing through the middle of the cornea and the optic nerve. To assist in dividing the eye exactly, it is advisable, before freezing it, to mark on the sclera, with an ink-blue pencil, the direction in which you wish the section to be made. After cutting the eye place the two halves in water, and wash them by gently moving them. Place one half of the eye in methylated spirit, and the other half can be placed in chloral solution for mounting in glycerine jelly. Allow the eye to remain in spirit only two or three days; then remove it to absolute alcohol, and leave it there for twenty-four hours. It is usual next to place the tissue in a mixture composed of equal parts of absolute alcohol and ether. In the case of eye preparations it is advisable to omit this stage, as the ether breaks up the white nerve-fibres of the optic nerve.

Preparation of the Celloidin Solutions.—To prepare a weak solution dissolve one gramme of celloidin in a mixture of 15 cc. of absolute alcohol, and 15 cc. of pure ether. To make a saturated solution dissolve two

grammes of celloidin in the above quantities of absolute alcohol and ether. Some samples of celloidin do not give clear solutions because they contain water and foreign matter: to remedy this it is well, after cutting up the celloidin into pieces of one and two grammes in weight, to allow it to dry in the air until it becomes yellow and horny. It is also advisable to allow the solution to stand for a few days before using it for settlement. By these means a solution of celloidin is obtained which is clear as glass: this is of importance when mounting macroscopic specimens, but for microscopic work it does not matter, as all the opacity disappears when clearing with beechwood kreasote. Take the eye out of absolute alcohol, and place it in a weak solution of celloidin; it should be allowed to remain in this solution for a week, or longer, so that masses of tissue like a choroidal sarcoma, or a glioma, may be thoroughly permeated by it. Next transfer the eye to a saturated solution of celloidin, and keep it there for two or three days.

Imbedding and hardening.—In this process take a specimen jar, such as is used for imbedding an eye in glycerine jelly, place the eye in it with its cut surface uppermost, and pour in the saturated solution of celloidin until it just covers the cut surface of the eye. The hardening process should be carried on very slowly, or it is not uniform, and for this reason I cover over the specimen jar, allowing only a small space for evaporation; as the surface of the eye becomes exposed more celloidin solution should be poured on to it. During the night it is advisable to completely cover over the specimen jar, otherwise the hardening process might proceed too far. When the whole of the celloidin has become a little firmer than the consistence of a jelly, it is to be scooped out of the jar, and placed in rectified spirit to complete the hardening; the jar should be only partially covered so as to allow slow evaporation of the spirit. This process takes much time, and it is hastened by occasionally taking the celloidin out of the spirit, and leaving it exposed to the air for a few minutes. The consistence of the celloidin should be about the same as that of the tissue to be cut, and here arises a difficulty in cutting whole sections of the eye; if the celloidin is not sufficiently hard it will be found that the sclera will occasionally bend and slip under the razor; in this way a section of only a part of the eye is obtained, while the next section may be complete, but with the section of the sclera too thick on one side to lie evenly under the cover glass. The celloidin, therefore, has to be somewhat harder than that used in cutting ordinary tissues, and the sclera should not be made too hard by keeping the eye longer than needful in Muller's fluid or spirit. When the celloidin is

sufficiently firm the specimen has to be fixed to a thick piece of cork. This is done by smearing over the surface of the cork and the under surface of the specimen with a strong solution of celloidin, and lightly pressing the two together. If, after the specimen is fixed to the cork, any space be left around the periphery between the two surfaces, this is built up with a saturated solution of celloidin. In cutting the microscopic sections a special microtome, such as that made by Reichert, should be used. The knife should be placed obliquely, and it and the specimen should be continually wetted with rectified spirit. As each section is cut it is placed in rectified spirit; they are next transferred to a bowl of water, and it is well now, or after straining the sections, to cut the superfluous celloidin from around them; if this is not done, the celloidin is apt to double under the section, and so cause it to lie unevenly under the cover glass.

Staining and Mounting.—The sections may now be stained in the usual way, then transferred to water, and afterwards to rectified spirit. From the rectified spirit the sections are floated on to a slide, cleared, and mounted. For clearing purposes it is necessary to use a substance which will not dissolve the celloidin, otherwise, sections of such delicate tissues as gliomata become broken up and spoiled. Beechwood creasote is the best clearing fluid; it is slow, but makes the celloidin as clear as glass, and does not dissolve it. Some specimens of creasote that I have used do dissolve the celloidin, but pure beechwood creasote does not do so. Oil of thyme, oil of cloves, and oil of cedar wood are inferior to beechwood creasote; they either dissolve the celloidin or pucker it. When the celloidin and specimen are clear, the creasote is run off and the specimen mounted in balsam.

Very little of the eye is removed in cutting the above microscopic sections, and what remains makes an excellent macroscopic preparation. The eye, embedded in the celloidin, is cut away from the piece of cork; a small glass jar, provided with a ground glass stopper, is filled with rectified spirit, and the specimen placed in it. I have some specimens that I have kept in this way for the last eight months, and they have not undergone the slightest change. This method of mounting macroscopic sections has some advantages over the glycerine jelly one. In the first place, the specimens can be exposed to the sun without undergoing any change; and secondly, if at some future time it be necessary, microscopic sections can be cut from them.

LXXII.—*DUODENAL ULCER, PRODUCING PYLORIC STENOSIS, AND DEATH FROM INANITION** (*Card Specimen*).

By T. N. Kelynack, M.B.

The specimen was obtained from a man, aged 29, who, during life, had presented the characteristic signs of ulceration of the duodenum.

The ulcer is of circular shape, 1½in. in diameter, its edges are rounded, smooth, and indurated, and the mucous membrane forming the edge of the ulcer is undermined, so that a large cystic-like cavity is formed beneath the border of the ulcer. The ulcer is situated on the anterior wall of the duodenum, immediately beyond the pylorus, and is of a very chronic character. The ulceration has extended to the serous coat, and the floor is adherent to the gall-bladder, from which it is only separated by a thin membranous layer of tissue. The stomach was considerably dilated. The pylorus was so greatly stenosed that it would only admit the point of a probe.

The patient was under the care of Dr. Leech, through whose kindness I am able to show this specimen.

LXXIII.—*A CASE OF ACUTE PERITONITIS FROM PERFORATION OF A TUBERCULAR ULCER OF THE SMALL INTESTINE* (*Card Specimen*).

By T. N. Kelynack, M.B.

The specimen shows a round recent perforation of the small intestine through the serous coat, which forms the floor of a tubercular ulcer. Numerous other tubercular ulcers were found in both small and large intestine, also in cæcum and appendix. There was also advanced pulmonary phthisis, with tubercular ulcers of larynx. The patient was a female, aged 44.

The specimen is preserved in the Pathological Museum of the Owens College.

---

* Full report given in the "Manchester Royal Infirmary Post-Mortem Reports." Medical, Vol. 1891, p. 461.

LXXIV.—*CARCINOMA OF THE ASCENDING COLON* (Card Specimen).*

By T. N. Kelynack, M.B.

The specimen† was obtained from a female, aged 51, who, during life had presented symptoms of malignant disease with a very distinct, painless, and freely movable tumour in the right lumbar region. There was distinct melæna, but no vomiting of blood. She developed a maniacal condition, and died from exhaustion while still maniacal.

The main mass of the thickened, indurated, irregular, ulcerated, malignant growth was situated in the colon, two inches above the ileo-cæcal valve. No secondary deposits. Microscopically the growth was seen to be a medullary cancer.

LXXV.—*OSTEO-CHONDROMA OF THE RIB (Card Specimen).*

By Colley March, M.D.

The patient was Mrs. D., aged 29, married eight years. Seven years ago she was confined, at the seventh month, of a child that lived one day. There was no trouble with the breasts. There has been no child and no miscarriage since. The tumour was first noticed when she was 14 years old, and it was shown to me. I saw it again eight years ago, and told her it was growing from the bone.

27th April, 1892.—The tumour, of the size of a fully-distended breast, occupies the position of the right mamma. No glandular structure can be felt. The nipple is not retracted, and the skin is non-adherent. The mass is nodulated, very hard, and absolutely fixed. It is also broad and sessile.

Operation.—All tissues are cleared away from the tumour, but the fingers cannot be passed under its base so as to isolate the pedicle; and it seems impossible to say whether or not it is attached to more than one rib. The mass is forcibly tilted outwards, and it becomes apparent that a portion of it extends into the thorax between the ribs, and moves with each

---

* Full report of autopsy in the "Manchester Royal Infirmary Post Mortem Reports." Medical, Vol. 1891, p. 417.

† The specimen is preserved in the Pathological Museum of the Owens College.

tilting. Using more force to get a still better view, the bone suddenly snaps, and the whole tumour comes away with four or five inches of the fifth rib, and a great piece of pleural membrane. Through this huge gap nearly the whole of the lung can be seen. It is prettily marked blue and red by its blood vessels. It expands and contracts a little, but only a little, with the movements of the thorax. Very quickly but very tightly the skin is drawn together with wire, and meanwhile, with a dismal and melancholy sound, the respiratory muscles are pumping air in and out through the lips of the wound. There is fortunately no bleeding, and so no drainage is required. A strip of oiled guttapercha tissue is placed along the suture line; then a square of oiled lint; and then a large sheet of tissue which is covered with cotton wool, and secured by a many-tailed bandage. The tumour weighs two pounds.

That night the temperature was 101·2°, but fell before morning and never rose above normal again. The breathing was very shallow for two days. On May 5th the dressings were removed, the wound was found to be healed, the stitches were taken out, and the patient was well.

The tumour was kindly examined by Dr. Kelynack, who reported as follows: "Microscopically, the tumour presents the structure of an osteochondroma. The cartilage cells appear to be undergoing rapid proliferation, but no typical sarcomatous structure is apparent in the sections examined. Scrapings from the fresh preparation, however, showed large cells suggestive of a sarcomatous nature."

The specimen is preserved in the Pathological Museum of the Owens College.

LXXVI.—*SPECIMENS OF BOVINE TUBERCULOSIS* (*Card Specimens*).

By J. B. Wolstenholme, M.R.C.V.S.

Specimens, illustrating the form and variety of tubercular deposits in the pulmonary and pleuritic tissues of bovines.

INDEX.

PAGE

ABSCESS, chronic hepatic (Card specimen). (T. N. Kelynack) 72
„ of testicle. (G. A. Wright) 38
ANEURISM of heart (Card specimen). (R. T. Williamson)..... 81
„ aortic. (H. R. Hutton) 59
„ — in a seal. (A. H. Young) 51
„ abdominal. (Prince Stallard) 110
„ arch of aorta, two specimens of. (Nathan Raw) 142
„ axillary artery. (G. A. Wright) 37
„ intra-thoracic, with acute pericarditis (Card specimen). (T. N. Kelynack) 113
APPENDIX, chronic appendicitis with concretion. (G. A. Wright) 36
„ concretion from. (G. A. Wright) 37
Ashby (Henry), a case of mediastino-pericarditis in a child of two years 49
„ Löffler's diphtheria bacillus..... 73
Ashby (H.) and Wright, ileo-umbilical diverticulum contained in the distal end of the umbilical cord (with illustration) 94
Ashworth (Percy), a case of acute necrosis 87

BLADDER, abnormal, of a horse. (J. B. Wolstenholme) 146
„ tumour of. (F. A. Southam) 107
BONE, acute necrosis of femur. (G. A. Wright) 40
„ — — without suppuration. (Nathan Raw) 141
„ — — of. (P. Ashworth) 87
„ fracture, of tibia and fibula. (G. A. Wright)..... 41
„ — of skull, in an infant. (T. N. Kelynack) 92
„ — of neck of femur, intra-capsular. (Prince Stallard) 111
„ necrosis of humerus after compound fracture. (G. A. Wright) 39
„ osteomyelitis of humerus. (G. A. Wright)..... 39
„ — of the neck of femur. (G. A. Wright) 40
„ — chronic, of lower end of femur with spontaneous fracture. (G. A. Wright) 40
„ sarcoma, central, of neck of femur. (G. A. Wright) 45
„ — periosteal, lower end of humerus. (G. A. Wright) 44
„ tuberculosis of upper end of tibia. (G. A. Wright)..... 41
„ — — lower end of tibia. (G. A. Wright) 41
BRAIN, arachnoid cyst (Card specimen). (W. J. Potts)..... 72
„ birth palsy, a case of. (T. C. Railton) 81
„ bilateral cerebral hæmorrhage. (T. N. Kelynack)..... 94
„ cerebellar tumour. (J. S. Bury) 131

PAGE

BRAIN, cerebellum, plexiform angio-sarcoma of. (Sheridan Delépine) 137
„ multiple tumours of. (G. H. Cooke) 146
„ subcranial blood clot (Card specimen). (T. N. Kelynack) 95
„ tubercular meningitis (Card specimen). (Edwin Goodall) 48
„ tumour of pituitary body. (William Thorburn) 70
BREAST, multiple fibro-adenomata of. (G. A. Wright) 43
BROOKE (H. A. G.), epithelioma adenoides cysticum (hydradenoma) 54
„ leiomyoma of the skin 131
BURSA, chronic enlargement of olecranon. (G. A. Wright) 39
BURY (JUDSON S.), cerebellar tumour 131

CARCINOMA, ascending colon (Card specimen). (T. N. Kelynack) 153
„ of lung. (D. J. Leech) 96
CEREBELLUM, tumour of. (Judson S. Bury) 131
„ plexiform angio-sarcoma (Card specimen). (Sheridan Delépine) 137
COOKE (G.H.), multiple tumours of the brain 146
CYST, arachnoid (Card specimen). (W. J. Potts) 72
„ cystic sarcoma of muscle. (G. A. Wright) 45
„ dermoid, of ovary (Card specimen). (T. N. Kelynack) 139
„ hydatid cyst, abdominal, pre-vertebral. (Julius Dreschfeld) 51
„ — — of liver (Card specimen). (T. N. Kelynack) 139
„ kidney, double hydronephrosis. (J. M. H. Martin) 47
„ of omentum. (Herbert Lund) 67

DELÉPINE (SHERIDAN), a series of large sections of whole organs 87
„ plexiform angio-sarcoma of the cerebellum (Card specimen) 137
DIPHTHERIA, Löffler's bacillus of. (Henry Ashby) 73
DIVERTICULUM, ileo-umbilical. (H. Ashby and G. A. Wright) 94
„ Meckel's, cases of (Card specimens). (T. N. Kelynack) 140
DRESCHFELD (JULIUS), abdominal (pre-vertebral) hydatid cyst 51
„ bi-mucous fistula 117
DUODENUM, chronic round ulcer of, producing pyloric stenosis (Card specimen). (T. N. Kelynack) 152
DURA MATER, supra-dural blood clot (Card specimen). (T. N. Kelynack) 95

EAR, chronic suppurative otitis media, with acute purulent meningitis. (William Milligan) 67
ENCHONDROMATA of the fingers. (G. A. Wright) 43
EPULIS, sacromatous (Card specimen). (E. Roberts and G. N. Skipp) 79
EPITHELIOMA of glosso-epiglottic furrow. (G. A. Wright) 46
„ of penis. (G. A. Wright) 46
„ of scrotum. (G. A. Wright) 46
„ of tongue. (G. A. Wright) 45
EYES, angioma of the ciliary body. (A. Hill Griffith) 134
„ chronic localised choroiditis. (A. Hill Griffith) 136

PAGE

EYES, macroscopic and microscopic sections of. (E. Roberts) 149
„ optic tracts in unilateral atrophy. (R. T. Williamson) 70
„ tubercular tumour of the choroid (with illustration). (A. Hill Griffith) ... 75

FRACTURE, of humerus, compound, with necrosis. (G. A. Wright)..... 39
„ of tibia and fibula, showing malposition. (G. A. Wright) 41
„ of neck of femur, intra-capsular. (Prince Stallard) 111
FEMUR, acute necrosis of. (G. A. Wright)..... 40
„ tubercular epiphysitis of (Card specimen). (A. W. W. Lea) 140
„ osteomyelitis of neck of. (G. A. Wright) 40
„ — chronic of. (G. A. Wright) 40
FIBRO-NEUROMA of cervical nerves. (G. A. Wright) 43

GOODALL (EDWIN), pure cultivations of micro-organisms (Card specimens)..... 48
„ tubercular meningitis (Card specimen)..... 48
GRIFFITH (A. HILL), angioma of the ciliary body 134
„ a case of chronic localised choroiditis with deposit of bone 136
„ tubercular tumour of the choroid (with illustration) 75

HARRIS (THOMAS), report on Dr. Robertson's specimen of cornual pregnancy (with illustration) 64
„ note on photo-micrography (with illustration) 76
HEART, aneurism of (Card specimen). (R. T. Williamson) 81
„ acute pericarditis, with aortic aneurism (Card specimen). (T. N. Kelynack) 113
„ malignant endocarditis (Card specimen). (F. H. Westmacott) 80
„ pyæmic pericarditis. (G. A. Wright) 38
„ rupture of the. (J. Dixon Mann) 74
„ suppurative pericarditis: bovine. (J. B. Wolstenholme) 146
„ with lungs, in septicæmia (Card specimen). (H. R. Hutton) 138
HERNIA, sac of. (H. Lund) 67
„ sac of femoral. (G. A. Wright) 36
HUTTON (H. R.), aortic aneurism..... 59
„ heart and lungs, from a case of acute septic inflammation of serous membranes (Card specimen)..... 138
„ acute tuberculosis: lung and spleen (Card specimen) 71
HYDATID CYST, abdominal (pre-vertebral), (Julius Dreschfeld) 51
„ of liver (Card specimen). (T. N. Kelynack) 139
HYDRONEPHROSIS of both kidneys. (J. M. H. Martin) 47
HYDROCELE, suppurating. (G. A. Wright) 38

ILEO-UMBILICAL DIVERTICULUM contained in the distal end of the umbilical cord (with illustration). (H. Ashby and G. A. Wright)... 94
INFANTILE PARALYSIS, leg from the subject of. (G. A. Wright) 38
INTESTINE, bi-mucous fistula. (Julius Dreschfeld)..... 117
„ carcinoma of (Card specimen). (T. N. Kelynack) 153
„ diverticula of (Meckel's) (Card specimens). (T. N. Kelynack) 140

PAGE

INTESTINE, gangrenous enteritis. (G. A. Wright) 36
„ perforation of. (G. A. Wright)..... 36
„ perforation of small, and laceration of mesentery (Card specimen). (T. N. Kelynack) 112
„ tubercular ulcer, with perforation (Card specimen). (T. N. Kelynack)..... 152
„ tubercular ulceration, with caseating mesenteric glands (Card specimen). (W. Lauder) 113

KELYNACK (T. N.), a case of fractured skull in an infant 92
„ bilateral cerebral hæmorrhage 94
„ carcinoma of the ascending colon 153
„ cases of Meckel's diverticulum (Card specimen) 140
„ chronic hepatic abscess with advanced amyloid kidney (Card specimens) ... 72
„ chronic duodenal ulcer resulting in pyloric stenosis (Card specimen) 152
„ dermoid ovarian cyst (Card specimen) 139
„ hydatid cysts of the liver (Card specimen) 139
„ intra-thoracic aneurism with acute pericarditis (Card specimen) 113
„ laceration of mesentery and perforation of small intestine (Card specimen) 112
„ "large white" kidney associated with atrophic kidney—two cases (Card specimens) 112
„ localised subcranial blood-clot (Card specimen) 95
„ sections of the cord and medulla from a case of disseminated sclerosis (Card specimen) 112
„ tubercular intestinal ulceration with perforation (Card specimen) 152
KIDNEY, amyloid, in a case of chronic hepatic abscess (Card specimen). (T. N. Kelynack) 72
„ atrophic, asssociated with "large white" (Card specimens). (T. N. Kelynack) 112
„ hydronephrosis, double. (J. M. H. Martin)..... 47
„ malformation of (Card specimen). (F. H. Westmacott) With illustrations. 115
„ solitary (Card specimen). (F. H. Westmacott) 115
KNEE-JOINT, loose body from. (G. A. Wright) 39

LARYNX, complete extirpation of. (J. Dixon Mann and R. E. Lord)..... 108
LAUDER (W.), tubercular ulceration of bowel and caseating mesenteric glands ... 113
LEA (A. W. W.), pulmonary tuberculosis with tubercular epiphysitis of the head of the femur (Card specimen) 140
LEECH (D. J.), atrophic hepatic cirrhosis 102
„ cancer of the lung 96
LEIOMYOMA of skin. (H. G. Brooke) 131
LEG, subject of old infantile paralysis. (G. A. Wright) 38
LIVER, atrophic cirrhosis. (D. J. Leech) 102
„ hydatid cysts of (Card specimen.) (T. N. Kelynack) 139
LOOSE BODY removed from knee-joint. (G. A. Wright) 39
LUND (HERBERT), hernial sac 67
„ omental cyst 67

PAGE

LUNG, broncho-pneumonia in an infant (Card specimen). (T. C. Railton) 73
„ cancer of. (D. J. Leech) 96
„ and heart from case of acute septic inflammation (Card specimen). (H. R. Hutton) 138
„ tuberculosis of, with tubercular epiphysitis of head of femur (Card specimen). (A. W. W. Lea) 140
LYMPHATIC GLANDS, calcareous degeneration of. (G. A. Wright) 42
„ Lymphadenomata of the neck. (G. A. Wright) 44
„ Tuberculosis of mesenteric glands (Card specimen). (W. Lauder) 44

MANN (J. DIXON), Rupture of the heart 74
„ and LORD (R. E.), a case of complete extirpation of the larynx by a suicide 108
MARCH (COLLEY), osteo-chondroma of rib (Card specimen) 153
MARTIN (J. M. H.), a case of double hydro-nephrosis 47
MEDIASTINO-PERICARDITIS in a child. (H. Ashby) 49
MELANOTIC ALVEOLAR SARCOMA. (W. Thorburn) 71
MENINGITIS, acute purulent, following chronic suppurative middle ear disease. (W. Milligan) 67
„ tubercular (Card specimen). (Edwin Goodall) 48
MESENTERY, laceration of (Card specimen). (T. N. Kelynack) 112
MICRO-ORGANISMS, pure cultures of (Card specimen). (E. Goodall) 48
„ Löffler's diphtheria bacillus. (H. Ashby) 73
MICROSCOPE, a demonstrating (Card specimen). (T. C. Railton) 60
MILLIGAN (WILLIAM), acute purulent meningitis following chronic suppurative middle ear disease 67

NERVES, fibro-neuroma of cervical. (G. A. Wright) 43

ŒSOPHAGUS, stricture of. (G. A. Wright) 35
OSTEO-CHONDROMA of rib (Card specimen). (H. C. March) 153
OVARY, dermoid cyst of (Card specimen). (T. N. Kelynack) 139

PERICARDIUM, purulent pericarditis: bovine. (J. B. Wolstenholme) 146
„ pyæmic pericarditis. (G. A. Wright) 38
PERFORATION of tubercular intestinal ulcer (Card specimen). (T. N. Kelynack) 152
PERITONITIS, tubercular (Card specimen). (T. C. Railton) 79
PLEURA, tuberculosis of (Card specimen). (T. C. Railton) 114
PHOTO-MICROGRAPHY, a note on (with illustration). (Thomas Harris).. 76
POLYPUS, naso-pharyngeal. (G. A. Wright) 44
POTTS (W. J.), arachnoid cyst (Card specimen) 72

RAILTON (T. C.), adherent pleura, with secondary tuberculosis in the new formed tissue (Card specimen) 114

PAGE

RAILTON (T. C.), a case of birth palsy 81
„ a demonstrating microscope (Card specimen) 60
„ broncho-pneumonia in an infant (Card specimen) 73
„ tubercular peritonitis and peri-hepatitis (Card specimen)..... 79
RAW (NATHAN), acute necrosis without suppuration 141
„ two specimens of aneurism of the arch of the aorta without well-marked symptoms during life 142
RECTUM, imperforate. (G. A. Wright) 37
„ papillomatous adenoma of. (G. A. Wright) 37
RIB, osteo-chondroma of (Card specimen). (Colley March)..... 153
ROBERTS (E.), macroscopic and microscopic sections of eyes prepared by the celloidin method..... 149
ROBERTS (E) and SKIPP (G. N.), sarcomatous epulis (Card specimen) 79
ROBERTSON (G. J.), ruptured cornual pregnancy 61

SARCOMA, central, of femur. (G. A. Wright) 45
„ cystic, of muscle. (G. A. Wright) 45
„ melanotic alveolar. (William Thorburn)..... 71
„ periosteal, of humerus. (G. A. Wright) 44
SOUTHAM (F. A.), tubercle of hernial sacs 104
„ tumour of the bladder 107
SEAL, aneurism in a. (A. H. Young)..... 51
SECTIONS, a series of large, of whole organs. (S. Delépine) 87
SKIN, cavernous angioma. (G. A. Wright) 43
„ epithelioma adenoides cysticum. (H. A. G. Brooke) 54
„ horny growth of hand. (G. A. Wright) 42
„ horny growth within sebaceous cyst. (G. A. Wright) 43
„ leiomyomata of. (H. A. G. Brooke)..... 131
SKULL, fracture of, in an infant. (T. N. Kelynack) 92
SPLEEN, tumour of. (G. A. Wright) 42
SPINAL CORD, reflexes in injury of. (William Thorburn) 117
„ sections, from a case of disseminated sclerosis (Card specimen). (T. N. Kelynack) 112
„ unusual degeneration in. (R. T. Williamson)..... 110
STALLARD (PRINCE), abdominal aneurism 110
„ intra-capsular fracture of the neck of the femur..... 111

TESTICLE, abscess of. (G. A. Wright) 38
THORBURN (W.), melanotic alveolar sarcoma 71
„ the reflexes in spinal injuries..... 117
„ tumour of the pituitary body..... 70
TOE, hammer (G. A. Wright)..... 39
TUBERCULOSIS, bovine (Card specimen). (J. B. Wolstenholme) 154
„ of choroid (with illustration). (A. Hill Griffith) 75
„ of epiphysis of femur (Card specimen). (A. W. W. Lea) 140
„ equine (J. B. Wolstenholme and T. N. Kelynack) 143

PAGE

TUBERCULOSIS of hernial sacs. (F. A. Southam) 104
„ intestinal (Card specimen). (W. Lauder) 113
„ intestinal (Card specimen). (T. N. Kelynack) 152
„ of meninges (Card specimen). (E. Goodall) 48
„ of mesenteric glands (Card specimen). (W. Lauder)..... 113
„ peritoneal (Card specimen). (T. C. Railton) 79
„ pleuritic (Card specimen). (T. C. Railton)..... 114
„ pulmonary (Card specimen). (A. W. W. Lea) 140
„ of spleen and lung (Card specimen). (H. R. Hutton) 71
„ of tibia. (G. A. Wright) 41
UTERUS, ruptured cornual pregnancy (with illustration). (G. J. Robertson)... 61

WESTMACOTT (F. H.), kidney with double pelvis and ureter (Card specimen). (With illustrations) 115
„ malignant endocarditis 80
„ solitary kidney (Card specimen) 115
WILLIAMSON (R. T.), aneurism of the left ventricle (Card specimen) 81
„ optic tracts in unilateral atrophy 70
„ unusual degeneration in the spinal cord 110
WRIGHT (G. A.), abscess of the testicle 38
„ acute necrosis of the femur 40
„ aneurism of the axillary artery 37
„ appendicitis with concretion 36
„ calcareous degeneration of lymphatic glands 42
„ cavernous angioma of skin 43
„ central sarcoma of neck of femur 45
„ chronic enlargement of the oleocranon bursa 39
„ concretion from vermiform appendix 37
„ cystic sarcoma of muscle..... 45
„ enchondromata of the fingers..... 43
„ epithelioma of glosso-epiglottic furrow 46
„ — — tongue 45
„ — — penis 46
„ — — scrotum 46
„ fibro-neuroma of cervical nerves 43
„ fracture of the tibia and fibula, showing malposition 41
„ gangrenous enteritis..... 36
„ hammer toe 39
„ horny growth of hand..... 42
„ horny growth from interior of sebaceous cyst..... 43
„ imperforate rectum..... 37
„ intestinal perforation 36
„ leg, the subject of old infantile paralysis..... 38
„ loose body from the knee-joint 39
„ lymphadenomata 44
„ lymphadenoma of the neck 44

PAGE

WRIGHT (G. A.), multiple fibro-adenomata of the breast 43
„ naso-pharyngeal polypus springing from body of sphenoid 44
„ necrosis of humerus after compound fracture 39
„ osteomyelitis of the humerus..... 39
„ — of the neck of femur..... 40
„ — of the lower end of femur, with spontaneous fracture..... 40
„ papillomatous adenoma of the rectum 37
„ periosteal sarcoma of the lower end of the humerus 44
„ pyæmic pericarditis 38
„ sac of a femoral hernia 36
„ splenic tumour 42
„ stricture of the œsophagus 35
„ suppurating hydrocele 38
„ tubercular disease of the upper end of the tibia..... 41
„ — — of the lower end of the tibia..... 41
WOLSTENHOLME (J. B.), abnormal bladder in the horse 146
„ bovine suppurative pericarditis 146
„ specimens of bovine tuberculosis (Card specimens) 154
„ and KELYNACK (T. N.), equine tuberculosis..... 143

YOUNG (A. H.), aortic aneurism in a seal 51

WELLCOME LIBRARY INSTITUTE

JOHN HEYWOOD, EXCELSIOR PRINTING AND BOOKBINDING WORKS, MANCHESTER.

also wrote
Dr Moore
6 June 99

3, ST. PETER'S SQUARE,
MANCHESTER.

Residence:
MOSS HOUSE,
RUSHOLME.

HOURS: 2 TO 4.
SATURDAYS: 12.

Telephone No. 2063.

17. V. 99.

My dear Sir

Your letter has reached the right man at last.

I am sorry to say that since the publication of our first volume of "Transactions"

our Society has not
been in a position to
go on with the publication
of further numbers.

Our Society has a large
membership but the Sub^{n} is
very low and there have
been objections to raising it.

Thanking You for
Your kind enquiries I am
Yours faithfully
T. N. Kelynack
(Hon Sec)